LEGAL PROBLEM DIAGNOSIS STUDY

2018 – 2019

A COLLABORATIVE UK COMMERCIAL RESEARCH STUDY INTO MACHINE LEARNING AND THE CLASSIFICATION OF LEGAL CONSUMER PROBLEM EXPRESSIONS.

ACADEMIC PARTNER

UNIVERSITY OF WESTMINSTER

FUNDED BY

European Union
European Regional Development Fund

Legal Utopia is the trading name for Legal Utopia Limited which operates at their registered office in England and Wales at Level 30, The Leadenhall Building, 122 Leadenhall Street, London, EC3V 1AB. Legal Utopia Limited [no. 10909418]. Company Directors include Fraser J Matcham, Robert Marcus, Charles Sterling, and Paul Harper. © 2019 All Rights Reserve.

Copyright Notice:

This study is provided to you by Legal Utopia Limited and is the copyright of Legal Utopia Limited. This digital copy of the study has been licensed soley to the purchaser in accordance with our Terms. You are not authorised to distribute, disseminate or otherwise replicate the contents of this study, or otherwise duplicate its contents to another individual or organisation.

Access to this document is restricted to the email address provided by you at the time of purchase, the purchaser will not be able to grant access or share this document to additional email addresses of the purchaser. The purchaser will be unable to amend this restriction upon purchase.

Where we have identified any third-party copyright information you will need to obtain permission from the copyright holders concerned.

This publication is available from: https://legalutopia.co.uk/research only.

LEGAL UTOPIA – THE A.I. WAY

Legal Utopia is a commercial for-profit venture that has developed a new artificial intelligence application to facilitate greater access to justice. Legal Utopia collaboratively partnered with Westminster Law School (WLS) and the School of Computer Science and Engineering (SCSE), the University of Westminster by successfully securing funding from the European Regional Development Fund (EURDF)via the KEEP+ Scheme delivered by Anglia Ruskin University. This collaborative partnership and funding was to research and develop the artificial intelligence apparatus identified in this study, whereby WLS provided research support to enable the SCSE to develop the data pipelines and algorithms at the heart of the application apparatus.

The venture was formed in 2017 with the ambition to develop solutions focusing on access to justice by using advanced technologies with a design-focused approach. Legal Utopia formed an interdisciplinary board of directors, advisors, and academics establishing combined experience of over 100-years in law, technology, business, and academia.

The algorithms that run the platform in order to 'autonomously analyse a consumer's legal problem and allocate it within multiple parameters of field of law' relies on natural language – in other words, they use language commonly used by consumers to explain their problems in order to conduct this allocation. As such, WLS provided a database on the JISC Online Survey that volunteers recruited by Legal Utopia used at legal services providers with client files and through personal interviews in order to gather that natural language data from cases. WLS accessed the JISC Online Survey and processed the data, that was then fed by WLS to SCSE to develop the relevant algorithm(s).

The research and development was subject to a Data and Ethics Framework Protocol (DEFP). Those primarily overseeing the coordination of data collection under this protocol are project member(s) of Legal Utopia and project member(s) from Westminster Law School ('data coordinators').

Editors:
Christine Bromfield

Authors:
Fraser Joseph Matcham

Legal Utopia is the trading name for Legal Utopia Limited which operates at their registered office in England and Wales at Level 30, The Leadenhall Building, 122 Leadenhall Street, London, EC3V 1AB. Legal Utopia Limited [no. 10909418]. Company Directors include Fraser J Matcham, Robert Marcus, Charles Sterling, and Paul Harper. © 2019 All Rights Reserve.

Table of Contents

Legal Utopia is the trading name for Legal Utopia Limited which operates at their registered office in England and Wales at Level 30, The Leadenhall Building, 122 Leadenhall Street, London, EC3V 1AB. Legal Utopia Limited [no. 10909418]. Company Directors include Fraser J Matcham, Robert Marcus, Charles Sterling, and Paul Harper. © 2019 All Rights Reserve.

Legal Utopia is the trading name for Legal Utopia Limited which operates at their registered office in England and Wales at Level 30, The Leadenhall Building, 122 Leadenhall Street, London, EC3V 1AB. Legal Utopia Limited [no. 10909418]. Company Directors include Fraser J Matcham, Robert Marcus, Charles Sterling, and Paul Harper. © 2019 All Rights Reserve.

FOREWORD

Fraser J Matcham
CEO
Legal Utopia Limited

Legal Utopia was founded out of frustration and aspiration, arising from my experience working with charities to support litigants-in-person; a fascination for technology; and an entrepreneurial charisma borne a career-changing curiosity – Why can't a platform provide a simple plain English legal diagnosis custom to consumers, for a consumer? – purely seeking to authoritatively direct and educate consumers what their legal problem is, practical steps to resolve the problem and, if necessary, where they can go for legal advice, financial support, or other relevant social support.

This was a question, at the time, asked by a mere penultimate law student - naïve, and inexperienced in the practise of law. A perception taken by many within the legal profession on its surface and to which this study, this task would have failed without the input of knowledgeable, qualified, and experienced lawyers and industry stakeholders. Equally, this task would have failed without delivering a new disruptive, dynamic, and decisive way of thinking, disposing of institutional thought barriers. This, I believe, is a requirement of any undertaking in unchartered territory, with a mission or goal to establish a collaborative environment for positive change, not for lawyers but legal consumers. This does not stop or prevent evidenced-based research and debate, but fundamentally prioritises collaborative solutions as an output of such research and debate.

This is said at a time when the legal profession has been, and continues to be, undergoing a monumental step-change instigated not by law firms, judges, or government but consumers, pioneers, and disrupters those unreported working within their basements, garages, and yes, university halls to shape the way consumers will access legal knowledge and skills in an efficient, transparent, and personal way. Consumers demand more transparency and the aspiring lawyers and technologists of tomorrow will dare to defy tradition and deliver a durable consumer-orientated legal future, for positive progression to take place collaboratively the profession must incubate new attributes and skills in an environment unfamiliar with previous traditions. Knowledge of the past is supportive, a vision for the future is imperative.

Leading to the outputs of this study, to portray this study was easy or without its near insurmountable requirements would be an understatement. This study sought to create a capability new in the state of the art within a highly restrictive budget compared to its nearest comparative. Additionally, the sector has a myriad of issues it needs to address should it wish to safeguard its integrity and deconstruct its hostile, unilateral, and sometimes unwelcoming practices advanced by many to maintain inefficient, out-dated and opaque practice methods. It is clear the mass of misinformation and potential in legal technology is prevalent by those influenced or invested in sustaining the unsustainable.

Nevertheless, at the inception of undertaking this project, I obtained the greatest of support from my academic colleagues resulting in a funded collaborative partnership with the University of Westminster. When venturing into what was uncharted territory, I was provided with mentorship and met with excitement from an institution of research excellence.

Legal Utopia is the trading name for Legal Utopia Limited which operates at their registered office in England and Wales at Level 30, The Leadenhall Building, 122 Leadenhall Street, London, EC3V 1AB. Legal Utopia Limited [no. 10909418]. Company Directors include Fraser J Matcham, Robert Marcus, Charles Sterling, and Paul Harper. © 2019 All Rights Reserve.

SPECIAL THANKS

The scale of this project was significant and would not be possible without an abundance of resources to collaboratively work together to achieve a common goal – greater access to law.

Legal Utopia would like to take this opportunity to provide a special thanks to the below organisations and institutions; including the people involved in making contributions to the success of this research study and its outputs.

Contributing University

Westminster Law School
- Dr Paresh Kathrani
- Elizabeth Duff
- Catherine Pedámon
- Marc Mason
- Pamela Abrams
- Gillian Palmer
- Jochim Dymott
- Sarah Dawson
- David Stewart

Westminster Student Law Clinic
- Anna Steiner

School of Computer Science and Engineering
- Markos Mentzelopoulos
- Vasilis Kotsos

Contributing Firms (Pro Bono)

Baker McKenzie LLP
Mishcon De Reya LLP
Norton Rose Fulbright LLP
Jurit LLP
Barclays Bank Plc
Dentons UK and Middle East LLP
Amazon Web Services Inc

Legal Utopia is the trading name for Legal Utopia Limited which operates at their registered office in England and Wales at Level 30, The Leadenhall Building, 122 Leadenhall Street, London, EC3V 1AB. Legal Utopia Limited [no. 10909418]. Company Directors include Fraser J Matcham, Robert Marcus, Charles Sterling, and Paul Harper. © 2019 All Rights Reserve.

Additionally, we cannot forget the contribution of our team at Legal Utopia who worked extremely hard to complete this research and its insights.

Directors & Shareholders
- Fraser Matcham
- Robert Marcus
- Charles Sterling
- Paul Harper
- Elaine Carruthers

Advisors
- Matus Tutko
- Jeremey Glover
- Dr Paresh Kathrani

Academic Advisory Board
- Elizabeth Duff
- Catherine Pedámon
- Markos Mentzelopolous
- Marc Mason

R&D Team
- Geoff Chan
- Christine Bromfield
- Zoha Jamil
- Iulia Batrineanu
- Afroz Ali Chuhan
- Katia Stasik
- Nikitin Pavlo
- Semeniuk Oleksandr
- Vasilis Kotsos
- Vladyslav Butenko
- Vadim Selyan

Volunteers
- Marho Gere
- Sandra Fotinaite
- Ufuknur Cetin
- Sameeha Chaudry
- Paulina Sipelyte
- Amer Eid
- Yujing Zhu
- Fadia Traboulsi
- Jarata Coker
- Ziaul Hoque
- Maria Riasat
- Serra Altintas
- Kreshma Nabeziada
- Denna Heydari
- Farhat Sekandary
- Sharonya Singarajah
- Christine Dela Cruz
- Zawar Naqui
- Boyana Boyadzhieva
- Jonas Nepozitek
- Petros Terzis
- Hajer Moumni
- Youssab Rafia

Legal Utopia is the trading name for Legal Utopia Limited which operates at their registered office in England and Wales at Level 30, The Leadenhall Building, 122 Leadenhall Street, London, EC3V 1AB. Legal Utopia Limited [no. 10909418]. Company Directors include Fraser J Matcham, Robert Marcus, Charles Sterling, and Paul Harper. © 2019 All Rights Reserve.

PROJECT SCOPE

Legal Utopia is a social LawTech for-profit venture on a mission to make a difference, an impact, by making law affordable and accessible to everyone. It has been established by its Founder - Fraser Matcham.

The overall research in this study consisted of collaborating and consulting with a total of 12 organisations (including 5 international law firms, 1 banking institution, and two regulators) and engaged with 142 industry stakeholders. The project included no less than 75 team members (internal and external), received a total of 169,568 data files of which included the undertaking of 18,347 interviews and 151,221 manual file reviews. A total of 27,817 research participant responses to our 28 lines of enquiry, market research, and solution prototyping design and pilot testing.

In its collaborative partnership with the University of Westminster, Legal Utopia researched and developed an application described in a University's press release as an: '…application software which can autonomously analyse a consumer's problem and allocate it within multiple parameters of field of law'.

Legal Utopia collaboratively partnered with Westminster Law School (WLS) and the School of Computer Science and Engineering (SCSE), by way of a successful European Regional Development Fund KEEP+ Scheme funding application, to develop this application, whereby WLS will help research the cases that the SCSE needed to develop the algorithms at the heart of the application.

Those primarily overseeing the coordination of data collection under this protocol is Fraser Matcham (CEO) of Legal Utopia and Catherine Pedámon (Senior Lecturer) from Westminster Law School ('Data Co-ordinators').

This project was reviewed and approved by the Faculty of Social Sciences and Humanities, University of Westminster, Ethics Committee in accordance with the University's Research Ethics Framework.

The Faculty's Ethics Committee Chairperson is: Professor Marco Roscini.

This study has been peer-reviewed, edited and approved by the University of Westminster.

Legal Utopia is the trading name for Legal Utopia Limited which operates at their registered office in England and Wales at Level 30, The Leadenhall Building, 122 Leadenhall Street, London, EC3V 1AB. Legal Utopia Limited [no. 10909418]. Company Directors include Fraser J Matcham, Robert Marcus, Charles Sterling, and Paul Harper. © 2019 All Rights Reserve.

EXECUTIVE SUMMARY

This European Union funded national commercial research undertaken by Legal Utopia and the University of Westminster was substantial and concerns dozens of organisations, institutions, and associations that enabled its findings. This study comprises the findings of this research project to support the national and international research-base for those seeking to explore, discover and understand the consumer legal marketplace; as well as presenting a user case of a commercial solution utilising machine learning in the exclusive jurisdiction of the United Kingdom.

The key summary findings of this research study are:

- This study had a total of 28 lines of enquiry aimed toward consumers and small businesses, engaged 142 stakeholders, and received contributions from 12 stakeholders; including pro bono collaborations from 5 international law firms;
- Amongst 9,203 consumers and small businesses located in the United Kingdom, 83% said they would use or prefer to use a mobile-based application to identify and help resolve their legal problem;
- Amongst 8,016 consumers and small businesses located in the United Kingdom, 79% said they would pay for a platform that could help them identify and resolve their legal problem on a monthly subscription of between £0.99-£9.99pm;
- 7,298 consumers and small businesses located in the United Kingdom were asked to prioritise a range of 10 legal services, tools, and resources that they would expect access to from a mobile-based application when identifying and resolving their legal problem. The highest ranking was (1st) Form Links (access to forms and documents via URL links), (2nd) Legal Advice was ranked second, and (3rd) Legal Guidance was ranked third;
- From an analysis of 146,536 data files of consumer and small businesses expressions of legal issues and disputes, the data files concerned 21 legal fields and 87 legal sub-fields;
- From a representative analysis of the 87 legal sub-fields identified from the 146,536 data files, 517 unique problem instances (specific unique legal need(s) or task(s)) were identified;
- From an analysis of the 571 unique problem instances, a total of 11 unique roles, 6 unique problem statuses, 452 unique questions, and 6 unique legal remedies were identified or established;

Legal Utopia is the trading name for Legal Utopia Limited which operates at their registered office in England and Wales at Level 30, The Leadenhall Building, 122 Leadenhall Street, London, EC3V 1AB. Legal Utopia Limited [no. 10909418]. Company Directors include Fraser J Matcham, Robert Marcus, Charles Sterling, and Paul Harper. © 2019 All Rights Reserve.

- Of the 21 legal fields, 87 legal sub-fields and 517 problem instances there are up to 186,516 total possible unique outcome combinations depending on the users' role, status, and sought remedies of each problem instance;
- From an analysis of the 10 most popular legal fields, the problem instances that were contentious only accounted for between 2-7% of the legal issues or disputes identified;
- From the natural language training data of 146,536 data files, across the 10 most popular legal fields, a machine learning classification of the domain achieved an accuracy of up to 96%;
- From the natural language training data of 146,536 data files, across the 10 most popular legal fields, a machine learning classification of the subdomain achieved an accuracy of up to 99%;
- From the natural language training data of 146,536 data files, across the 10 most popular legal fields, a machine learning classification of the domain achieved a median accuracy of 77%;
- Amongst a trial of 3300 consumers and small businesses (in an "offline" environment – no personal data captured) over the course of a four-week period, the user case prototype achieved a successful classification and validation of the domain and subdomain of law within two attempts in 93% of cases and achieved a success rate (getting relevant content to the right user) in 94% of cases;
- Amongst the 3300 prototype trial participants piloting the proposed mobile-application, 76% said they would annually subscribe to use it and 91% said they would subscribe for a one-month subscription.
- Of 6,244 legal consumers seeking to engage a legal services provider in the UK, 48% used email as the first instance medium of communication followed by 32% used phone, and 16% instant chat.
- Of 6,244 legal consumers when seeking to engage a legal services provider in the UK, the most efficient average response time was from the instant chat medium of 10-minutes.
- Of 500 legal consumer user cases when receiving legal advice, legal consumers demonstrated the greatest implied understanding of the legal problem by legal term association in Contract Law and Intellectual Property Law matters.

Legal Utopia is the trading name for Legal Utopia Limited which operates at their registered office in England and Wales at Level 30, The Leadenhall Building, 122 Leadenhall Street, London, EC3V 1AB. Legal Utopia Limited [no. 10909418]. Company Directors include Fraser J Matcham, Robert Marcus, Charles Sterling, and Paul Harper. © 2019 All Rights Reserve.

- Of 500 legal consumer user cases, all legal consumers had an implied greater understanding of their legal problem across the 10 most popular legal fields identified from the 146,536 natural language training data post-legal advice.

Legal Utopia is the trading name for Legal Utopia Limited which operates at their registered office in England and Wales at Level 30, The Leadenhall Building, 122 Leadenhall Street, London, EC3V 1AB. Legal Utopia Limited [no. 10909418]. Company Directors include Fraser J Matcham, Robert Marcus, Charles Sterling, and Paul Harper. © 2019 All Rights Reserve.

INTRODUCTION

This study further builds upon a breadth of consumer-orientated research in the legal services industry in the United Kingdom by various stakeholders, notably, the Competition and Markets Authority research study in 2016. There has also been a growing interest and response to the market advancements of legal technology (LegalTech) focused to the corporate market to begin researching and assessing the consumer market for law technology (LawTech). This research-base of the operation of the market and its conditions in providing legal services to consumers is what this study seeks to compliment.

The study was undertaken on an agile methodology approached on the basis of a growing migration of consumer behaviour towards instant service offerings via mobile applications across other industries with the main stakeholders in legal services failing in providing an agile approach to developing a market solution for consumers seeking to identify their legal problem.[1]

The study sought to specifically assess the interest in, and market for, the provision of a web-based application for legal problem diagnosis and service recommendation (which subsequently became a mobile-based application). In particular, the provision of consumer legal services in the legal profession remained viably susceptible to technological disruption due to multiple negative factors in the consumer journey remaining unaddressed by established legal services providers and stakeholders including poor customer service, poor marketing, service inefficiencies, automatability, affordability, approachability, and lack of trust.[2]

In addition, this study was commercially focused to rapidly develop and test the proposed web-based application (subsequently, mobile-based) with an agile "learn and pivot" approach to accept, assess and apply consumer feedback to application design, functionality and cost. This subsequently led to the creation of the Legal Utopia Engine (L.U.E) capable of conducting a legal problem assessment and diagnosis autonomously utilising machine learning.

The initial industry research studies and reports, as well as advanced technology hypothesis into the potential capability for advanced technology, to provide an autonomous legal diagnosis to non-jargonistic natural language was an influencing factor to the commission and collaboration of this research study, emulating similar studies undertaken in the UK,[3] other countries,[4] as well as similar projects in the United States[5] and Australia.[6] However, a predominate focus to this study was to provide a commercially

[1] Legal Services Board, Technology and Innovation in Legal Services, November 2018

[2] Consumers less satisfied with legal services, YouGov, 2013; Research and Analysis: The changing legal services market, SRA 2018 P17

[3] Creating New Pathways to Justice Using Simple Artificial Intelligence and Online Dispute Resolution, Osgoode Legal Studies Research Paper Series, Darin Thompson, 2015 https://digitalcommons.osgoode.yorku.ca/olsrps/152

[4] Classifying Legal Questions into Topic Areas Using Machine Learning, Stanford University, Brian Lao and Karthik Jagadeesh

[5] 'Learned Hands' (*Learnedhands.law.stanford.edu*, 2018) https://learnedhands.law.stanford.edu/legalIssues ; 'Legaldefence' (*Legalshield.co.uk*, 2019) <https://legalshield.co.uk/legaldefence>

[6] 'Home - Justice Connect' (*Justice Connect*, 2019) < https://justiceconnect.org.au/ >

Legal Utopia is the trading name for Legal Utopia Limited which operates at their registered office in England and Wales at Level 30, The Leadenhall Building, 122 Leadenhall Street, London, EC3V 1AB. Legal Utopia Limited [no. 10909418]. Company Directors include Fraser J Matcham, Robert Marcus, Charles Sterling, and Paul Harper. © 2019 All Rights Reserve.

viable solution and as such an approach to training machine learning algorithms on consumer legal problem statements, oppose to consumer legal questions was taken to enable a comprehensive understanding of legal consumer problems (not symptoms to consumer problems) whilst increased probability of viable machine learning results.

The research undertaken to attain these results was conducted in a highly collaborative environment working with the University of Westminster, in particular, Westminster Law School and the School of Computer Science and Engineering in an EU Regional Development Funded knowledge-transfer partnership (KTP).

Research undertaken with Westminster Law School sought to identify the ways consumers with legal problems expressed their problem in written non-jargonistic English, preferably prior to receiving any professional legal advice. Furthermore, the research project utilised this opportunity to measure and test responses to a range of areas concerning the use of law technology (LawTech) including (1) the use of technology in resolving legal problems, (2) the pricing of such a technology platform, (3) the expectations of consumers in using technology to identify and resolve their legal problem, (4) use of communication mediums, and (5) legal consumer confidence.

The consumer data was collected from both interviews with consumers, as well as from retrospective file collection from both non-profit and for-profit legal services providers based in the UK. The research co-ordinators contacted and agreed access to clients in accordance with the project Data and Ethics Framework Protocol (DEFP) (See: Research Data & Ethics). Data protection compliance and ethical considerations and implications remained a fundamental and ongoing consideration throughout and beyond the research period. A total of 169,568 data files were collected, out of these files a total of 146,536 were identified as suitable for use. The consumer files suitable for use is further analysed and broken down later on in this study (See: Natural Language Data).

Legal Utopia is the trading name for Legal Utopia Limited which operates at their registered office in England and Wales at Level 30, The Leadenhall Building, 122 Leadenhall Street, London, EC3V 1AB. Legal Utopia Limited [no. 10909418]. Company Directors include Fraser J Matcham, Robert Marcus, Charles Sterling, and Paul Harper. © 2019 All Rights Reserve.

METHODOLOGY

This research was carried out using both qualitative and quantitative approaches, first approaching the collection of data files to reach an optimum climax that could inform the machine learning research component using both in-person interviews and retrospective file review and data extraction.

Subsequently, the data files collected provided greater insights into the demands for consumer legal services and the specific legal problems requiring legal support.

Interviews were carried out with active users and clients of various legal services providers at the place of the provider, each interviewee was asked the questions outlined in the 'Client Interviews' lines of enquiry (See: Lines of Enquiry).

Researchers carrying out retrospective file review and extraction were provided with an amended line of enquiry outlined in the 'Retrospective Files' (See: Lines of Enquiry).

Researchers were tasked to review the provided files to answer the designated questions or complete designated tasks in accordance with the research project requirements.

Research participants were invited to complete an anonymous online survey comprised of a range of 'Market Research' lines of enquiry (See: Lines of Enquiry). The survey was promoted for a 10-month period amongst a range of legal services and social services providers.

Interview Process

Researchers undertaking interviews were subject to express conditions per the DEFP, this outlined the requirements and terms of engaging with research participants and the collection of personal data. When in-person interviews took place, a researcher would confirm the interviewees consent and understanding of the purpose of the research. After confirming this, the researcher will ask the interviewee to answer the 'Client Interview' lines of enquiry documenting the responses directly into a secure online JISC survey.

Each interviewee was interviewed in the same way, regardless of their type of legal issue or dispute or its status. The interview usually took between 4-7 minutes conducted at the place of business of each legal services provider.

Retrospective Files Process

Researchers undertaking retrospective file review were subject to express conditions per the Data and Ethics Framework Protocol, this outlined the requirements and terms of accessing, reviewing and extracting data from retrospective files. When retrospective file review took place researchers would be provided by the authorised legal services provider with the enquiry files of the research subject to whom submitted a consent form.

Legal Utopia is the trading name for Legal Utopia Limited which operates at their registered office in England and Wales at Level 30, The Leadenhall Building, 122 Leadenhall Street, London, EC3V 1AB. Legal Utopia Limited [no. 10909418]. Company Directors include Fraser J Matcham, Robert Marcus, Charles Sterling, and Paul Harper. © 2019 All Rights Reserve.

At this stage, researchers reviewed the files in conjunction with the Retrospective Files lines of enquiry. When data corresponded to answer or satisfy the requirements of the line of enquiry the data was extracted by manually inputting the data into a secure online JISC survey. The retrospective files were subsequently returned to the legal services provider upon completion of each file cohort. A review would take between 3-6 minutes.

Market Research

The market research lines of enquiry were carried out using an anonymous, online JISC survey promoted amongst legal and social services providers likely to concern the anticipated consumer demographic target market of the application. These lines of enquiry sought to measure the perspectives and attitudes of potential consumers to identify if they would utilise and pay for an online tool for legal support when encountering legal issues or disputes.

Design Process

Researchers undertaking the application design consultations were provided with access to a prototype of the proposed mobile application on their smartphones. Researchers would consult each research participant using the provided prototype and observe each participant inviting them to orally express their impression and understanding of the prototype. On occasion, researchers were asked to expressly not explain the proposed service or function of the application, instead inviting the participant to explain their impression of its purpose.

The observations and comments of research participants were anonymously documented in a report with direct reference to suggested amendments included. This enabled a research co-ordinator to review the reports from numerous researchers at each phase and comprise a master document reporting on the specific design and functionality requirements by following the patterns across the observation reports.

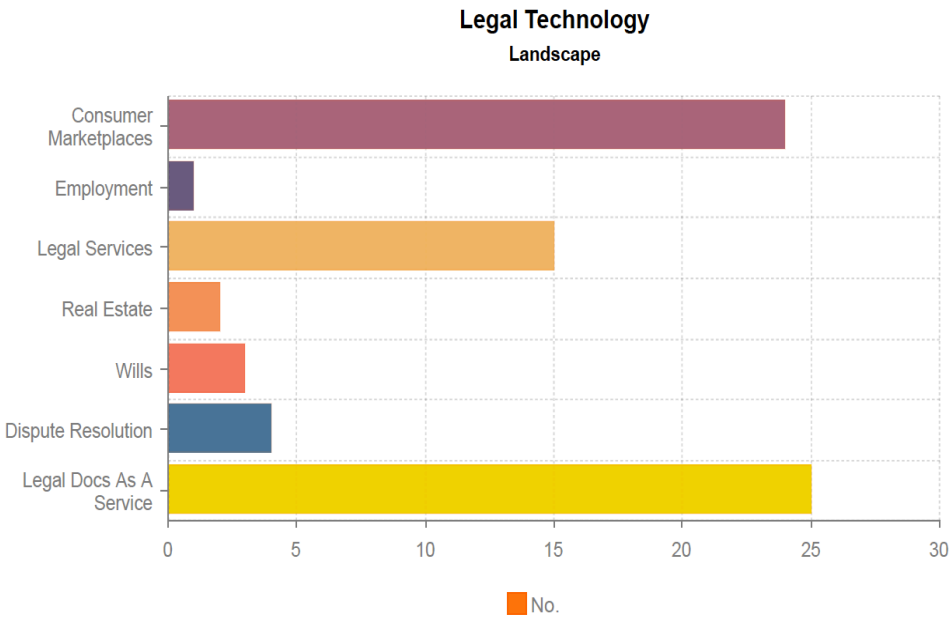
Legal Utopia is the trading name for Legal Utopia Limited which operates at their registered office in England and Wales at Level 30, The Leadenhall Building, 122 Leadenhall Street, London, EC3V 1AB. Legal Utopia Limited [no. 10909418]. Company Directors include Fraser J Matcham, Robert Marcus, Charles Sterling, and Paul Harper. © 2019 All Rights Reserve.

MARKET RESEARCH

Summary

The legal services market accounts for a minimal proportion of professional services turnover generating between £11-12bn annually[7] of the £186bn in the professional business services sector (representing 11% of UK economy's gross value added).[8] The segment remains substantially undisrupted with the provision of an instant, comprehensive, autonomous and consumer-orientated service that enables consumers to understand the legal position of their particular legal issue or dispute with added capability to provide initial support and guidance.

As highlighted in the legal services study, by the Competition and Markets Authority into the legal services market, current providers remain limited or unincentivised to provide the abovementioned. Despite the market conditions developing in favour of the development and launch of such a consumer platform and other industry successes in instant and, sometimes, autonomous provision of consumer diagnosis and matching services, such as, Babylon Health, Uber, and Deliveroo, to name a few, little investment and technological development has been undertaken by industry stakeholders.[9]



This lack of timely transformational thinking to deliver instant services by leveraging the advancements in technology is beginning to change amongst the consumer-focused providers, as well as the public sector. Some new initiatives are seeking to leapfrog the slow-pace of consumer-facing technology innovation in high-impact areas by investing in industry solutions and start-ups to ensure "they get off the ground and encourage more people to consider these problems",[10] with the announcement of:

[7] Legal Services Market Study – Final Report, Competition and Markets Authority, December 2016 p35

[8] Professional and Business Services Sector Report, House of Commons Committee Report – Exiting the European Union, UK Parliament < https://www.parliament.uk/documents/commons-committees/Exiting-the-European-Union/17-19/Sectoral%20Analyses/28-Professional-and-Business-Services-Report%20.pdf>

[9] Legal Technology Landscape (Chart): Based on representative sample of legal services portals from Legal Geek Map 2019

[10] Legal Support: The Way Ahead – An action plan to deliver better support to people experiencing legal problems, February 2019 Part 4: Fostering a culture of innovation

Legal Utopia is the trading name for Legal Utopia Limited which operates at their registered office in England and Wales at Level 30, The Leadenhall Building, 122 Leadenhall Street, London, EC3V 1AB. Legal Utopia Limited [no. 10909418]. Company Directors include Fraser J Matcham, Robert Marcus, Charles Sterling, and Paul Harper. © 2019 All Rights Reserve.

- £5 million Legal Innovation Support Fund by the Ministry of Justice[11]
- with an additional £2 million provided to the LawTech Delivery Panel,[12]
- £20 million in Next Generation Services fund aims at removing barriers to artificial intelligence in legal services;[13]
- £700,000 to the Solicitors Regulation Authority for support and development in artificial intelligence in legal services sector (notably the collaboration with Nesta UK launching the Access to Justice Challenge Fund of £500,000);[14] and
- £2.7 million to innovative projects that seek to reduce parental conflict.[15]

A total funding opportunity focused on LegalTech/LawTech innovation or removing barriers to such innovation of £30.4 million, this is without considering the additional funding to making opportunities in developing social applications for legal services or access to law that could be accessed from the further £30 million of funding available to invest by the Social Tech Trust support by the Department for Digital, Culture, Media and Sport.[16]

It is, however, yet to be seen whether this funding is awarded to initiatives, enterprises, and research projects focused on delivering solutions that truly apply to consumers and small businesses that continue to go under-served or unserved altogether. We echo, from experience, the findings and recommendations identified in the recent report by The Law Society of England and Wales on Technology, Access to Justice and the Rule of Law – Is technology the key to unlocking access to justice innovation? Where barriers to developing the technologies that could elevate challenges to access to justice were identified.[17]

Historical Research Insights

Industry insights and reports have provided a range of statistics to consumer perspectives, needs and demands in the UK, including:

- 68% of people do not believe that professional legal advice is affordable for ordinary people[18]
- 58% of people feel excluded from the legal system[19]
- 56% of people found uncertainty of cost to be a barrier to accessing lawyers[20]

[11] Ibid
[12] Ibid
[13] Ibid
[14] Ibid
[15] '£2.7 Million Fund To Tackle Parental Conflict' (*GOV.UK*, 2019) <https://www.gov.uk/government/news/27-million-fund-to-tackle-parental-conflict>
[16] Government launches £30m tech fund for social good, Third Sector, David Hobbs, February 2019 < https://www.thirdsector.co.uk/government-launches-30m-tech-fund-social-good/digital/article/1525249> accessed 18th June 2019
[17] Technology, Access to Justice and the Rule of Law: Is technology the key to unlocking access to justice innovation?, September 2019, The Law Society of England and Wales
[18] How innovation can unlock legal services for the majority, Legal Access Challenge 2019 https://legalaccesschallenge.org/insights/how-innovation-can-unlock-legal-services-for-the-majority/
[19] https://www.artificiallawyer.com/2019/05/30/58-feel-excluded-from-legal-system-but-can-tech-help/
[20] Ibid

Legal Utopia is the trading name for Legal Utopia Limited which operates at their registered office in England and Wales at Level 30, The Leadenhall Building, 122 Leadenhall Street, London, EC3V 1AB. Legal Utopia Limited [no. 10909418]. Company Directors include Fraser J Matcham, Robert Marcus, Charles Sterling, and Paul Harper. © 2019 All Rights Reserve.

- 37% of people found knowing who to trust to be a barrier to accessing lawyers[21]
- 51% of people are confident they could identify whether their problem was a legal one[22]
- 54% of people with a legal problem took advice from a solicitor or legal professional[23]
- 79% of people agreed that it needed to be easier to access legal guidance and advice for themselves[24]
- 58% of people believe that technology could help with accessing legal guidance and advice[25]
- 47% of consumers lack trust in artificial intelligence used to deliver legal services[26]
- 49% of consumers believe artificial intelligence enabled legal services not being friendly[27]
- 42% of the general public trust lawyers to tell the truth[28]
- 69% of people considered price to be an important factor to choosing a provider[29]
- 40% of consumers indicated they are interested in the convenience and low cost of online legal services[30]
- 60% of people agreed with the proposition that problems should be resolved within families or the community, not using lawyers or courts[31]
- More than 50% of businesses that experienced a problem tried to solve it on their own[32]
- 1/3 of consumer had no understanding of their legal position when they experienced a problem[33]
- Less than 1 in 5 small businesses classified their problem as legal.[34]

Furthermore, it has been identified that there is low public confidence in expressing dissatisfaction about legal services providers.[35] With only 20% of clients engaging with law firms when asked to complete client satisfaction surveys.[36] This causes what would

---

[21] Ibid

[22] 'The Legal Access Challenge Launches To Narrow The "Legal Gap"' (*Seven Consultancy*, 2019) <http://www.seven-consultancy.com/the-legal-access-challenge-launches-to-narrow-the-legal-gap/>

[23] 'Consumers See Technology As Key To Unlocking Access To Law - Legal Futures' (*Legal Futures*, 2019) <https://www.legalfutures.co.uk/latest-news/consumers-see-technology-as-key-to-unlocking-access-to-law>

[24] 'Legal System Is 'Not Set Up For Ordinary People'' (*Lawyer Monthly | Legal News Magazine*, 2019) <https://www.lawyer-monthly.com/2019/07/legal-system-is-not-set-up-for-ordinary-people/>

[25] 'Consumers See Technology As Key To Unlocking Access To Law - Legal Futures' (*Legal Futures*, 2019) <https://www.legalfutures.co.uk/latest-news/consumers-see-technology-as-key-to-unlocking-access-to-law>.

[26] https://www.legalfutures.co.uk/latest-news/consumer-panel-urges-regulators-to-act-on-lawtech

[27] Legal Services Consumer Panel, LawTech and Consumers, May 2019

[28] https://www.lawgazette.co.uk/practice/trust-in-lawyers-falling-but-client-satisfaction-high/5056661.article

[29] 'Legal Services Consumer Tracker 2016' (*Legalservicesconsumerpanel.org.uk*, 2016) <https://www.legalservicesconsumerpanel.org.uk/publications/research_and_reports/documents/LegalServiceBoardReportbyYouGovV4.pdf>

[30] UK Legal Services Market Report 2015 – Press Release, IRN Research, 2015

[31] Attitudes to the Justice System, English and Welsh Civil and Social Justice Panel Survey: Wave 2, Nigel Balmer, Legal Services Commission, 2013 p59

[32] The Legal Needs of Small Businesses, Kingston University, Commissioned by the Legal Services Board, 2015

[33] Competition & Markets Authority: Legal Services Market Study, December 2016

[34] Ibid

[35] Consumer Impact Report, Legal Services Consumer Panel, 2014

[36] Consumers less satisfied with legal services, YouGov, 2013

Legal Utopia is the trading name for Legal Utopia Limited which operates at their registered office in England and Wales at Level 30, The Leadenhall Building, 122 Leadenhall Street, London, EC3V 1AB. Legal Utopia Limited [no. 10909418]. Company Directors include Fraser J Matcham, Robert Marcus, Charles Sterling, and Paul Harper. © 2019 All Rights Reserve.

otherwise be repeat business leaving for an alternative provider[37] with the cost per acquisition of a customer being more than 6-times the cost of a repeat customer, providers are currently operating on an uneconomical model increasing their own customer acquisition costs that ultimately fall on consumers via client fees.[38] This is without taking into consideration the draconian, manual, and inefficient methods of conducting and delivering legal services amongst traditional model law firms.

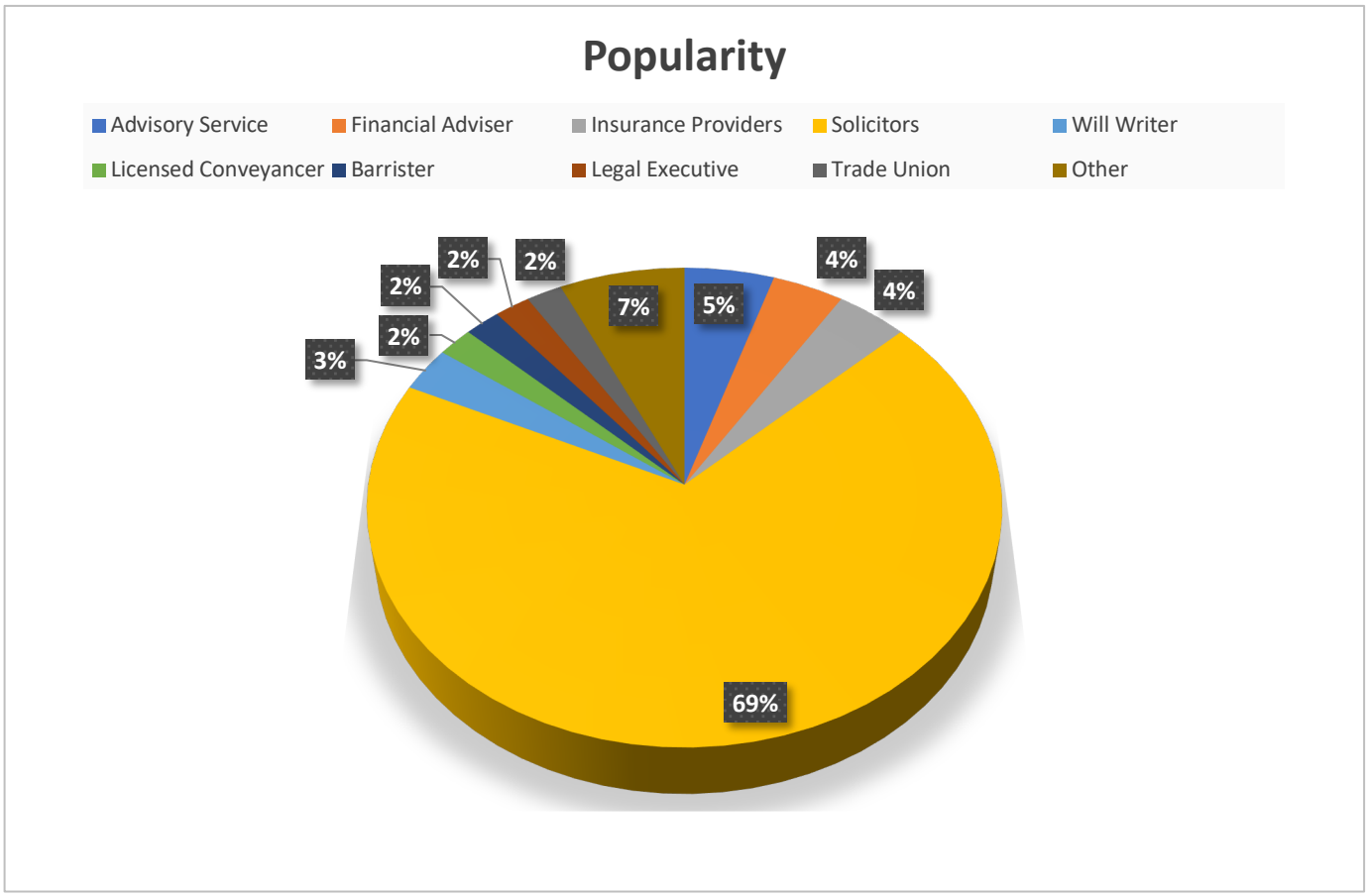
In addition to the challenges of legal services providers client acquisition approach, there is also deficiencies amongst providers approach when interacting and communicating with new clients that are seeking legal support for the first time.[39]

Professional methods of communication such as email and telephone calls are daunting and can become confusing to consumers that find law unintelligible and intellectually unmatched with established providers. This causes a natural unease with approaching legal services providers amongst consumers, with consumers opting to communicate their legal problem to family and friends and search engines to get feedback on their circumstances and next steps.[40]

These recommendations from family and friends are often provided on the basis of personal experiences from different or similar circumstances. The subsequent recommendations lack an assessment of quality, but rather cost, outcome and customer experience. Unfortunately, for consumers, the main considerations when selecting legal services providers are cost and outcomes[41] which can vary substantially depending on, inter alia, the particular legal nature, type of legal problem and geographical location; this is exacerbated by the inherent lack of transparency and insight as to costs and outcomes, in addition to generally poor customer service provision of legal services providers.[42]

[37] Customer Satisfaction, Complaints And Loyalty: The Evidence. Market Research World, 2008
[38] Lessons for Law Firms: The client experience, LawNet, 2015
[39] Research on Consumers' Attitudes towards the Purchase of Legal Services, A research report for: Solicitors Regulation Authority, Gfk NOP Social Research, 2010 Chapter 4
[40] Market study into the supply of legal services in England and Wales – consumer findings, IFF Research 2016 Chapter 3
[41] Tracker Survey 2019, Briefing note: how consumers are choosing legal services, Legal Services Consumer Panel, 30 July 2019, https://www.legalservicesconsumerpanel.org.uk/wp-content/uploads/2019/07/2019-07-25-How-consumers-are-choosing-2019-FINAL.pdf
[42] Better Information In The Legal Services Market – A report for the Solicitors Regulation Authority and the Legal Ombudsman, June 2018, Economic Insight Ltd, https://www.sra.org.uk/globalassets/documents/sra/research/better-information.pdf?version=4a1ac1

Legal Utopia is the trading name for Legal Utopia Limited which operates at their registered office in England and Wales at Level 30, The Leadenhall Building, 122 Leadenhall Street, London, EC3V 1AB. Legal Utopia Limited [no. 10909418]. Company Directors include Fraser J Matcham, Robert Marcus, Charles Sterling, and Paul Harper. © 2019 All Rights Reserve.



The above chart provides the breakdown of legal services provider popularity when consumers and small businesses engage with legal services providers, as identified by the Competition and Markets Authority (CMA).

Traditional Consumer Journey

From a review and analysis of the abovementioned consumer legal research, we summarise the current (traditional) journey a consumer faces from initially discovering or incurring an event that could be a legal issue or dispute.

The findings of a traditional journey currently concern a number of key faults that caused friction and frustration amongst consumers and small businesses. The first is seeking information to educate one's self of the legal nature of their issue or dispute at hand; this consists of understanding if there is an applicable law, rule or process that applies to the issue or dispute experienced. There is a trend amongst those that lack confidence in their legal problem that they find very little available information that is practical as to the relevance of their information and the legal steps that can be taken by themselves.

Almost all of those legal consumers that have little or no confidence in their legal problem understood the importance or impact of their circumstances and that associated with the legal problem they are facing has on the relevance of the legal information they read or the available (and pragmatic) legal steps one would take to resolve the legal problem.

Legal Utopia is the trading name for Legal Utopia Limited which operates at their registered office in England and Wales at Level 30, The Leadenhall Building, 122 Leadenhall Street, London, EC3V 1AB. Legal Utopia Limited [no. 10909418]. Company Directors include Fraser J Matcham, Robert Marcus, Charles Sterling, and Paul Harper. © 2019 All Rights Reserve.

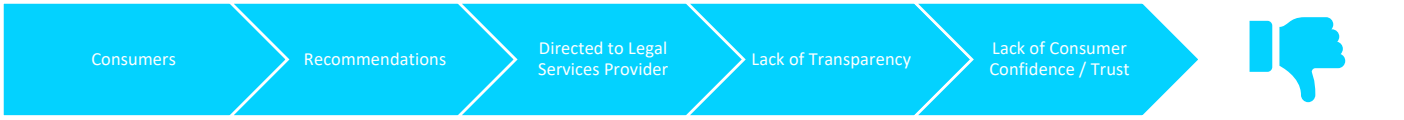
For example, many providers of legal information stop at the description of the legal nature of a general legal problem; providers do not provide practical information on the usual steps that would be taken in order to take formal legal steps in a specific scenario, much less taking into consideration the role of the individual, the status of their legal problem and the remedy they are seeking to resolve the problem within this content itself.

The second is seeking legal support, as abovementioned, at present the vast majority do not trust going directly to lawyers for guidance and, subsequently, feel more comfortable approaching friends and family. This causes additional frustration, as family and friends will act on individual experience that can be vastly different to the legal problem concerned, be misinformed of the legal problem at hand, or be unaware of the necessary characteristics of a legal problem to inform an adequate recommendation or referral.

In addition, consumers seeking a recommendation or referral are not being appropriately supported during the process, a consumer will obtain a recommendations from a friend or family member but this will, in most cases, be impractical to the consumers personal circumstances (location, budget, expertise, etc) and result in dependency on the incorrect type of lawyer recommended/referred; who is then unincentivised to provide an assessment of the consumers' needs and requirements to be appropriately referred. This is because the provider is time efficiency focused and will be unlikely to receive consideration for the referral (reinforcing the friction with lawyers). This will either lead to a continuing recommendation or referral process amongst numerous lawyers or result in the consumer abandoning seeking professional advice and/or seeking to resolve the legal problem themselves.

The abovementioned recommendation/referral process is further exacerbated by the lack of information and education of the legal problem concerned by the legal consumer themselves. Consumers remain uneasy and without confidence in the nature of their legal problem and the relevant routes to resolving it.

This journey is prior to seeking information from providers on the experience of the provider needed to take on the legal work and the ability to determine quality of service, the cost of services, and the scope of the legal work needed.



Lack of awareness, limited engagement.	Uninformed, unincentivised services referral / reference.	Consumers unaware, uneducated, costs incurred by both parties.	Consumers unaware of need for provider and fundamental considerations to professional services.	Consumer remains cautious and resistant with unaddressed legal needs.	**RESULT – Confused, frustrated and unserved consumers**

Future Consumer Journey

The future consumer journey takes into consideration the friction points identified from the traditional consumer journey. This study and the commercial output seek to be part of the solution to enabling legal education and practical legal guidance to the most common

Legal Utopia is the trading name for Legal Utopia Limited which operates at their registered office in England and Wales at Level 30, The Leadenhall Building, 122 Leadenhall Street, London, EC3V 1AB. Legal Utopia Limited [no. 10909418]. Company Directors include Fraser J Matcham, Robert Marcus, Charles Sterling, and Paul Harper. © 2019 All Rights Reserve.

legal problems faced by consumers and small businesses in an accessible and affordable format at the convenience of consumers.

The study identifies a lack of co-ordination and plain-English legal information that raises awareness of the routes and methods to resolving legal problems when encountered and to drive engagement with the law and legal professionals in a way that is digestible to non-lawyers; in particular, enabling a consumer to directly associate the relevance of law and legal professions to a particular legal problem. Consumers, when facing an event or discovering a problem that could be legal, are narrowly focused in seeking legal information, guidance and practical steps that specifically apply to their problem and circumstances. There is no underlying desire, by consumers, to read into law or legal processes that are not directly relevant to their legal problem.

In addition to the above, the ready access to large quantities of brief legal information on all subject-matter areas creates a pool of online confusion to legal consumers. Many well-known legal information providers in the industry utilised legal content creation to drive search engine rankings as a method to encourage legal professionals to subscribe to their information libraries, meanwhile other legal services providers utilised the creation of legal blog content to also boost their own search engine ranking in the hope of generating new custom by association with the content. The outcome of this has led to a vast amount of freely and readily accessible legal information that adds little value to legal consumers; and in many cases leads to confusion amongst consumers.

To address this, it was proposed that a mobile application for consumers is an approach that could address this problem for the vast majority of those seeking legal information on their legal problem; if the information provided is relevant and practical to the consumers specific legal problem and the remedy they are seeking.

On this basis, the future consumer journey has been developed with the envisaged application assisting post awareness and engagement of consumers (creating dependence on demonstrating and communicating value). The underlying need for industry and other stakeholders to better inform and guide consumers is a necessity to any proposed solution which is seeking to address the traditional broken consumer journey.

Following this, it is proposed that use of the Legal Utopia Application would assist with the need to inform and educate a legal consumer with the information they both need and seek when dealing with a problem that could be legal. This enables an assisted recommendation and/or referral process at a point where the user of the application is educated with the necessary information from an impartial source that then has the confidence to select the options available to them to resolve the legal problem. Most importantly, it is the users' prerogative to choose a service, resource, combination or not.

It is this process of education of a particular legal problem, that is only undertaken if validated by the user, that then puts the user (legal consumer) into the informed position to make a judgement as to which is relevant to them and available options to choose from, if any.

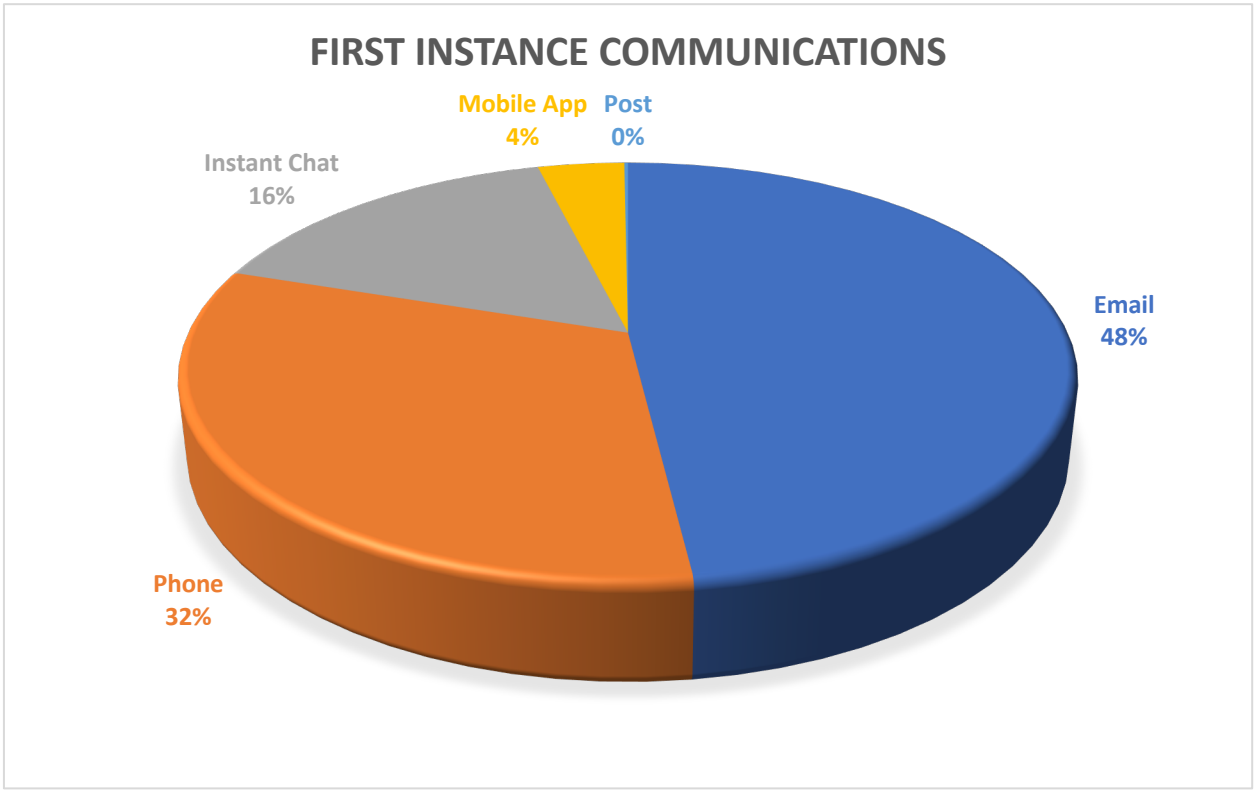
Legal Utopia is the trading name for Legal Utopia Limited which operates at their registered office in England and Wales at Level 30, The Leadenhall Building, 122 Leadenhall Street, London, EC3V 1AB. Legal Utopia Limited [no. 10909418]. Company Directors include Fraser J Matcham, Robert Marcus, Charles Sterling, and Paul Harper. © 2019 All Rights Reserve.

Raise awareness and drive engagement.	Informed consumers. Incentivised services refer / reference.	Consumers aware, educated, confident.	Consumers aware of the need for provider and fundamental considerations to professional service.	Consumers able to make informed decision and engage with appropriate service(s) providers.	**LEGAL UTOPIA – Educated and Confident Consumers.**

New Market Insights

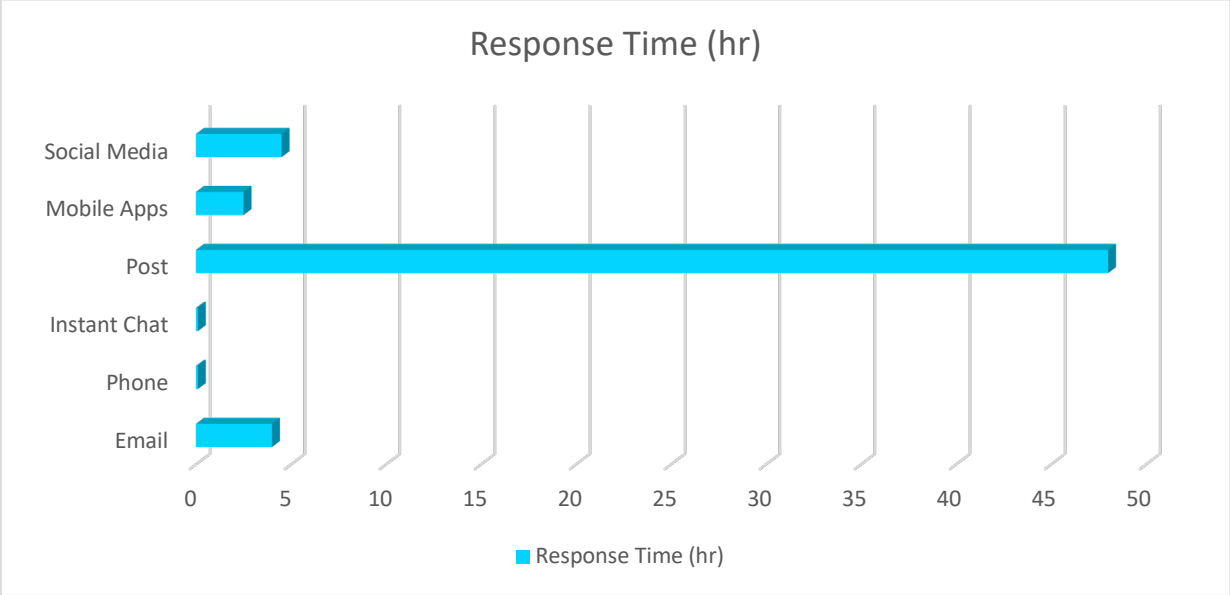
Building upon the above pre-existing research, this study sought to utilise its research on legal problem expression to include consumer perspectives on a range of areas in legal services delivery (See: Lines of Enquiry). In addition to the research insights provided in our natural language data analysis (See: Natural Language Data), other surveys either alongside or in addition to the natural language analysis, provided 27,817 responses (total combined) to a range of questions that applies to the application diagnosing and supporting the resolution of their legal issue or dispute.

To understand how customers that did engage legal services providers communicated in the first instance, the research team review correspondence of 6244 legal consumers from several providers in the UK. From a review of this correspondence, the substantial majority of first instance communication was via email and phone.



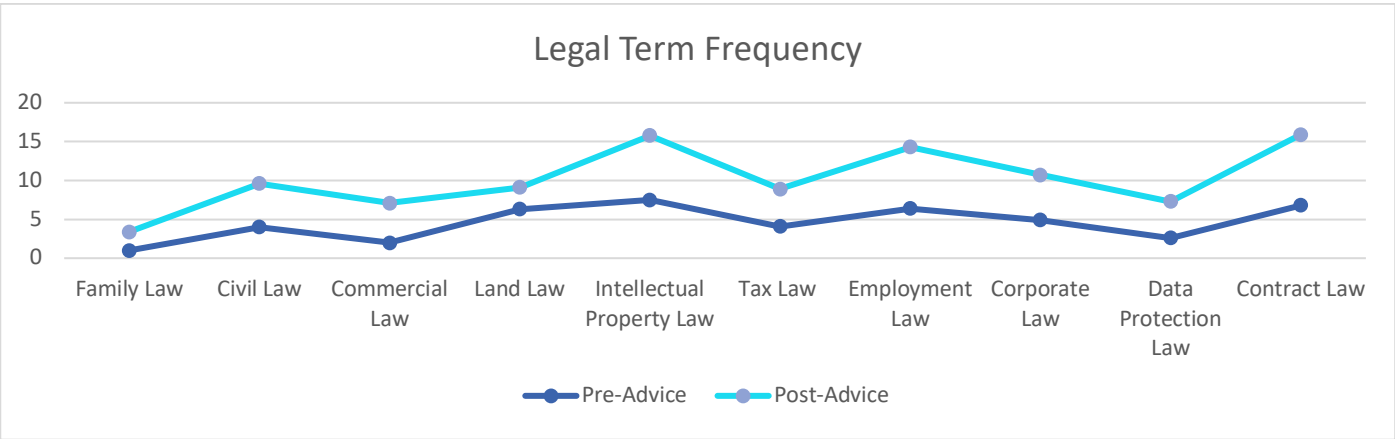
Legal Utopia is the trading name for Legal Utopia Limited which operates at their registered office in England and Wales at Level 30, The Leadenhall Building, 122 Leadenhall Street, London, EC3V 1AB. Legal Utopia Limited [no. 10909418]. Company Directors include Fraser J Matcham, Robert Marcus, Charles Sterling, and Paul Harper. © 2019 All Rights Reserve.

Of the same correspondence referred to above, the research team recorded the response time in each instance to the origin first instance communication. From the 6244 enquiries, instant chat followed by phone were the best performing mediums at an average of 10-minutes response time; expected from their inherent nature. This was followed by mobile apps at an average response of 2.5-hours and email at an average of 4-hours and post at an averaged total of 48-hours.



After interviewing 500 legal consumers and recording their explanation or description of their legal problem, our research team then recorded how the same legal consumers would explain or describe their legal problem again. The purpose of this was to understand the level of understanding or knowledge of their legal problem post professional advice.

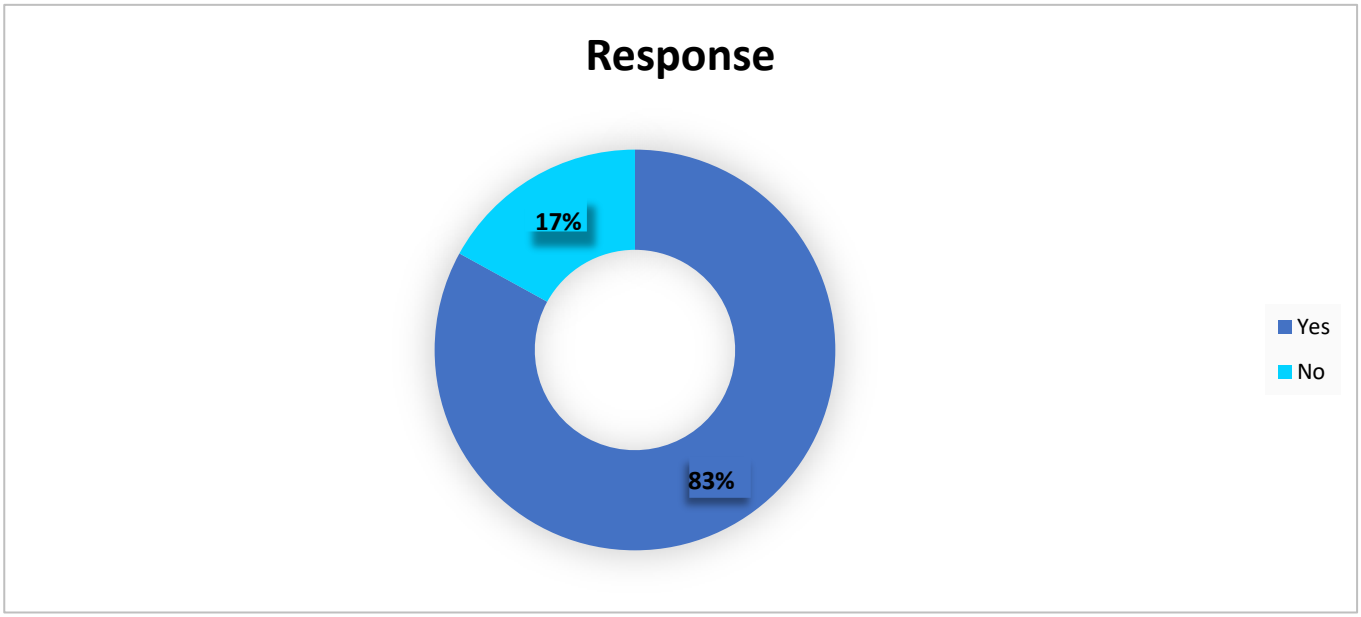
Upon linguistic review, whereby an algorithm would identify the number of legal terms present in the natural language text both pre and post-professional legal advice. It was identified that a greater number of legal terms were used by legal consumers post-professional advice. This suggests a greater understand by being able to apply legal concepts or terminology to their particular legal problem.



Legal Utopia is the trading name for Legal Utopia Limited which operates at their registered office in England and Wales at Level 30, The Leadenhall Building, 122 Leadenhall Street, London, EC3V 1AB. Legal Utopia Limited [no. 10909418]. Company Directors include Fraser J Matcham, Robert Marcus, Charles Sterling, and Paul Harper. © 2019 All Rights Reserve.

The researchers then sought to survey the opinions of legal consumers in relation to the role of connected devices and technology when seeking to identify and resolve a legal problem. The following questions were posed to legal consumers and small businesses located across the UK via legal services and social services providers.

Q1) Would you use or prefer to use a mobile-based application to identify and help resolve your legal problem?



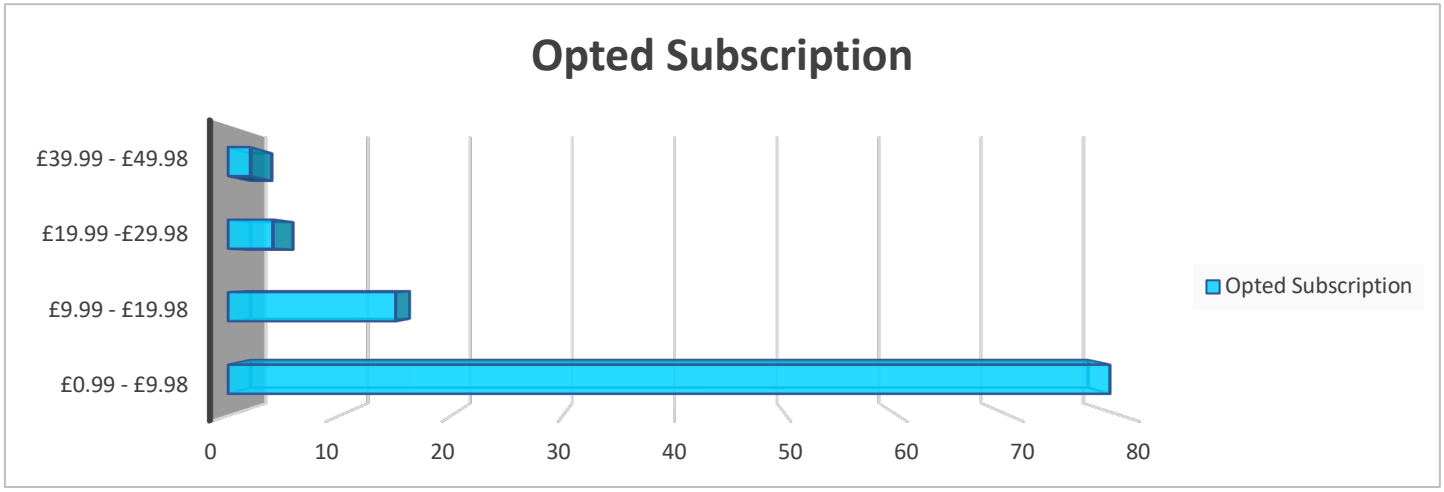
Q1) Data Observations:

As the data suggests, when surveying the responses to this question the majority of consumers provided that they would prefer to use a mobile-based application with initial, but limited, feedback providing that this was due to convenience and usability. This follows alike services trends that continue to opt for mobile-based platforms to deliver consumer-facing services.

It should be noted, however, that the survey was carried out online via a secure platform providing access to those only already able to access the internet via an enabled device with proficient digital literacy skills. An options list was also not provided, and data was collected based on a closed binary response.

Legal Utopia is the trading name for Legal Utopia Limited which operates at their registered office in England and Wales at Level 30, The Leadenhall Building, 122 Leadenhall Street, London, EC3V 1AB. Legal Utopia Limited [no. 10909418]. Company Directors include Fraser J Matcham, Robert Marcus, Charles Sterling, and Paul Harper. © 2019 All Rights Reserve.

Q2) What would you pay for a platform that could identify and help resolve your legal problem on a monthly subscription?

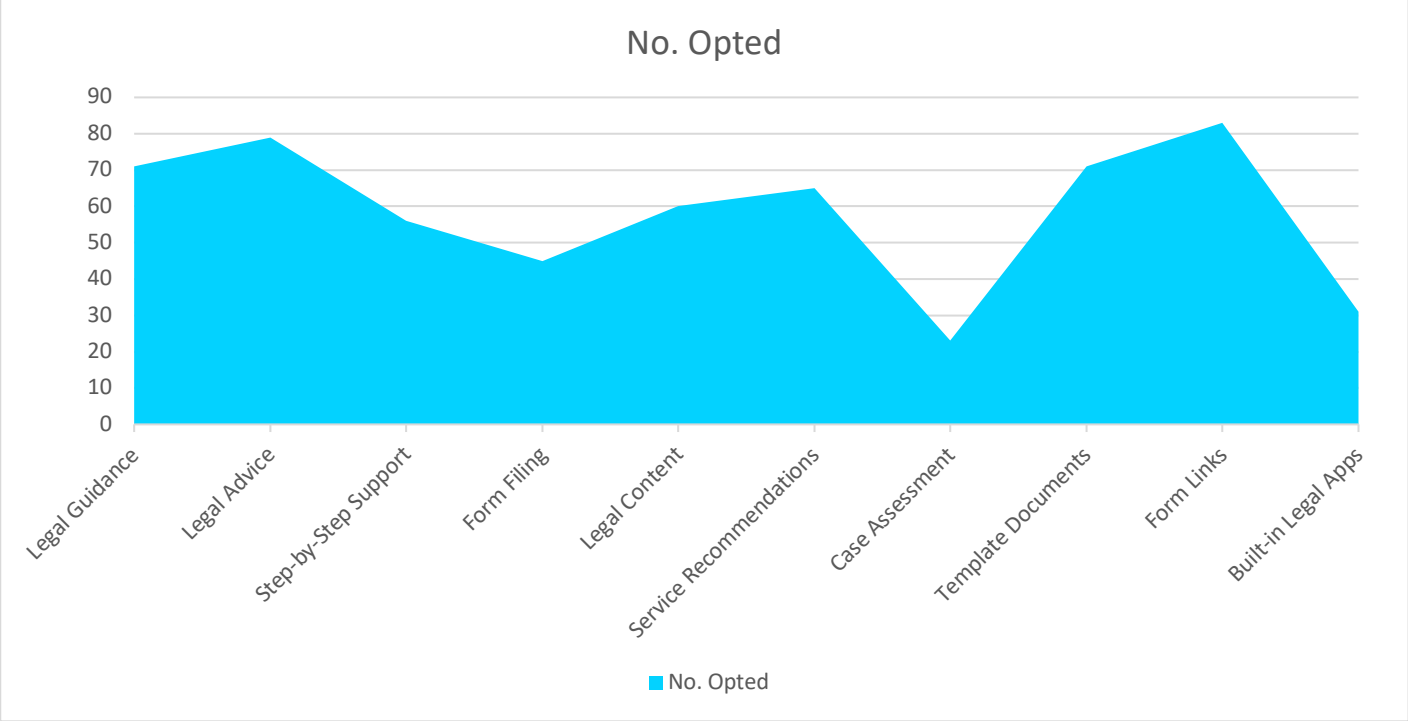


Q2) Data Observations:

As the data suggests, when surveying the responses to this question there was a preferred price range of £0.99 - £9.98 with slightly less opting for the £9.99 - £19.98 for a monthly subscription service. Research participants were not given an option over the pricing model-type (i.e. App-Purchase, Monthly Subscription, Pay-as-you-go). The price range was limited to under £50. This response is also expected due to the anticipated consumer demographic most likely to engage with the survey due to the consumer engagement source supporting a lower-income demographic. Businesses selecting an opted subscription were most likely to opt for a higher monthly subscription fee.

Legal Utopia is the trading name for Legal Utopia Limited which operates at their registered office in England and Wales at Level 30, The Leadenhall Building, 122 Leadenhall Street, London, EC3V 1AB. Legal Utopia Limited [no. 10909418]. Company Directors include Fraser J Matcham, Robert Marcus, Charles Sterling, and Paul Harper. © 2019 All Rights Reserve.

Q3) What would you expect from a mobile-based application when identifying and resolving your legal problem?



Research participants were provided with an options list of different forms of legal support that could be provided to aid the legal problems faced. This was provided to research participants that had already faced a legal problem and, in hindsight, ranked the different forms of support based on the perceived value they provide.

Research participants ranked the options in highest value to lowest value based on if they were to, again, face a legal problem what would be expect when seeking to identify and resolve that legal problem if from a mobile-based application.

This followed the same trend as that provided if research participants were to utilise pre-existing web-based search engines.

Q3) Data Observations:

As the frequency data presented in the above chart suggests, research participants responded significant desire for access to form links, legal advice, legal guidance, and template documents. This is reflected in the analysis of legal problem expressions (See: Natural Language Data). Interestingly, research participants did not have the expectation of a case assessment (validity of claim) – this is reflective of both the early stages of legal issues, problems and disputes being non-contentious legal rights queries with formal proceedings not being viewed as likely or necessary at this early-stage.

Legal advice was naturally highly sought after by research participants, however, an interesting perspective difference between research participants opting for legal guidance or legal advice demonstrated a preferred interest in control over

Legal Utopia is the trading name for Legal Utopia Limited which operates at their registered office in England and Wales at Level 30, The Leadenhall Building, 122 Leadenhall Street, London, EC3V 1AB. Legal Utopia Limited [no. 10909418]. Company Directors include Fraser J Matcham, Robert Marcus, Charles Sterling, and Paul Harper. © 2019 All Rights Reserve.

decision-making due to fear of losing direction over the legal issue or dispute being the main reason for opting for legal guidance amongst research participants.

Many of the research participants wanted to engage with services providers – who were more likely to be consumers oppose to businesses. Built-in applications to help resolve problems received a lower response than expected, however, a more refined drafting of the title option is thought to increase responses due to a lack of understanding by research participants as to what the title referred to and included.

Legal Utopia is the trading name for Legal Utopia Limited which operates at their registered office in England and Wales at Level 30, The Leadenhall Building, 122 Leadenhall Street, London, EC3V 1AB. Legal Utopia Limited [no. 10909418]. Company Directors include Fraser J Matcham, Robert Marcus, Charles Sterling, and Paul Harper. © 2019 All Rights Reserve.

NATURAL LANGUAGE DATA

Summary

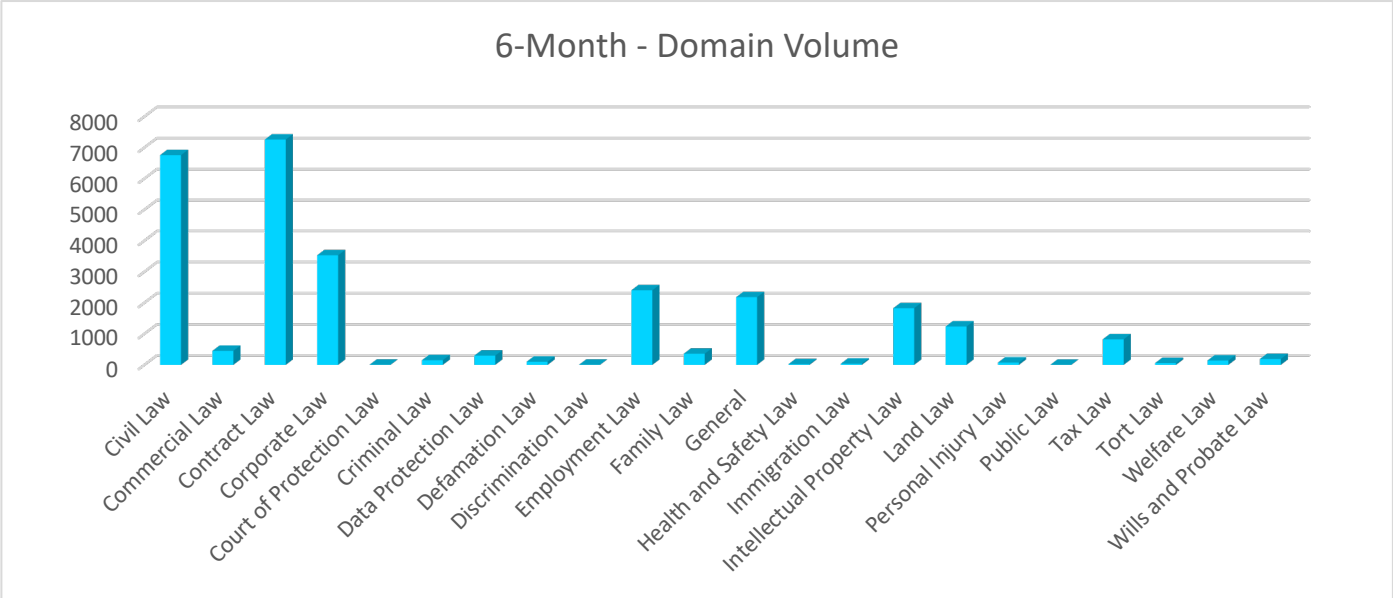
The project objective was to obtain natural language data directly from consumers to understand the legal issues and disputes suffered by consumers across the UK. The introduction of this study provided a number of opportunities to collect data on consumer perspectives not only on their issues, but the interaction they have had with legal services providers and quality of service, as well as services consumers would like to see and what they would be willing to do or pay to access such services.

It should be noted, for the purposes of this study, reference to natural language data refers to data that is free from legal jargon and that reflects, in its entirety, the expression and interpretation of a consumer. Natural language data written on behalf of a consumer by a lawyer, for instance, would be rejected and considered contaminated.

This is for the purposes of training a natural language processing machine learning algorithm to identify a legal issue or dispute from natural language data (as identified above), should data be inputted from lawyers it would likely refer to particular terminology that would include false patterns which would not be representative of a non-lawyer input and, as such, provide contaminated results.

Data Insights

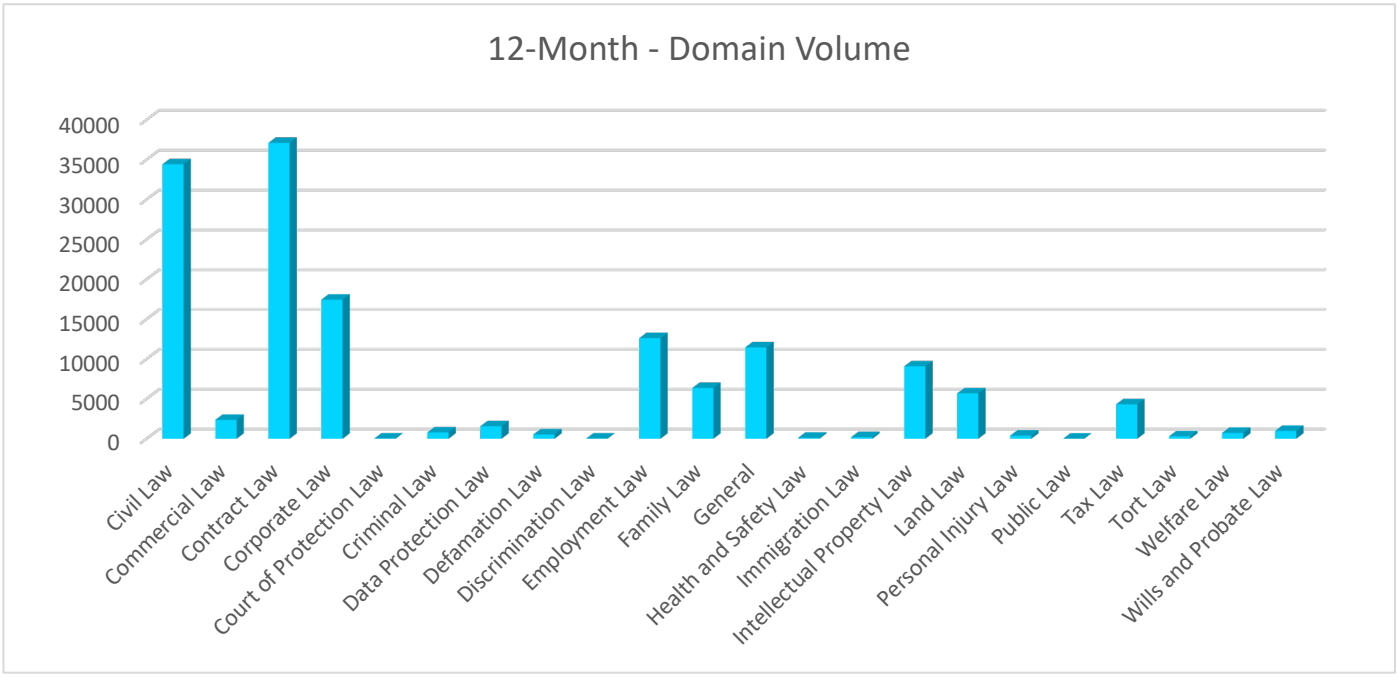
Total number of files by Domain



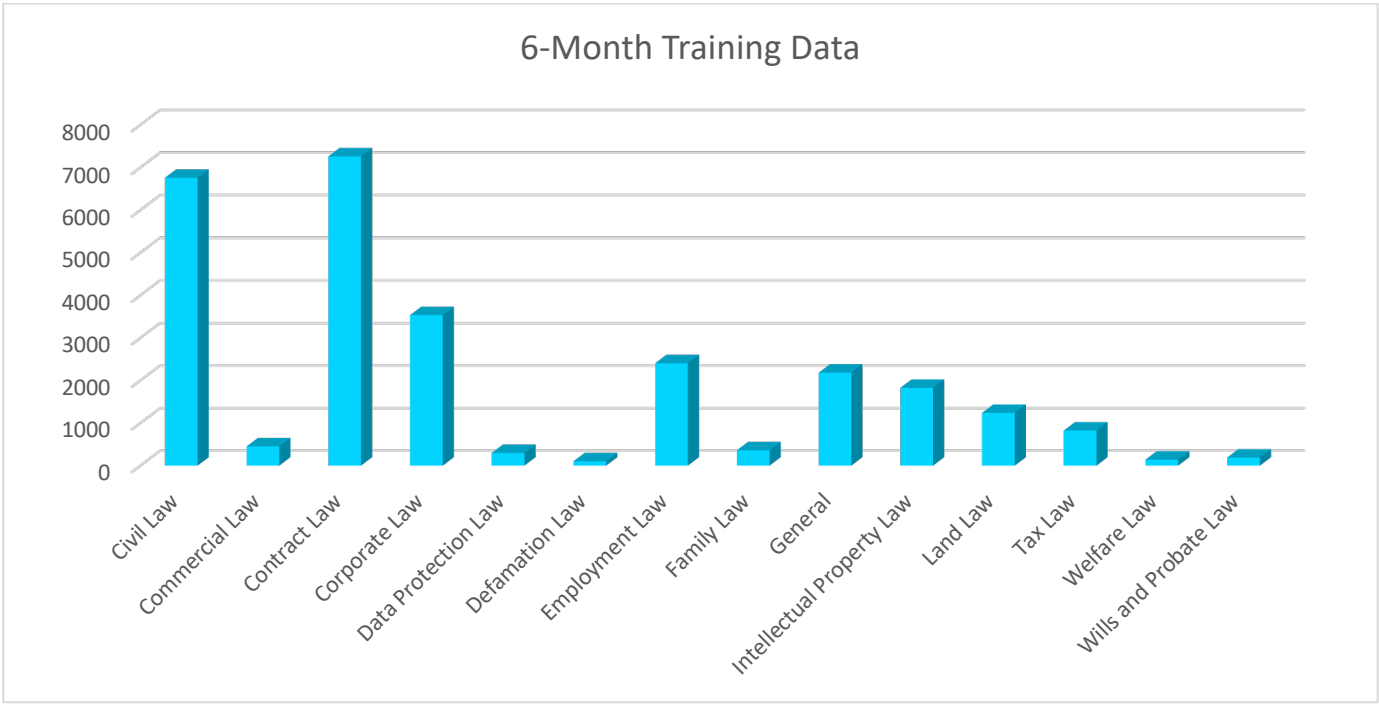
The above 6-month domain volume report provides a chart on the number of identified data files of each domain of law, this represents the data labelled and reviewed upon reaching the 6-month milestone. The chart provides that the Civil, Contract, Corporate, Employment, Intellectual Property, Land, and Tax Law domains were most popular amongst the completed proportion of the dataset. Additionally, the General section was

Legal Utopia is the trading name for Legal Utopia Limited which operates at their registered office in England and Wales at Level 30, The Leadenhall Building, 122 Leadenhall Street, London, EC3V 1AB. Legal Utopia Limited [no. 10909418]. Company Directors include Fraser J Matcham, Robert Marcus, Charles Sterling, and Paul Harper. © 2019 All Rights Reserve.

also highly popular (this concerned business, careers, and debt advice, as well as other business and social enquiries).

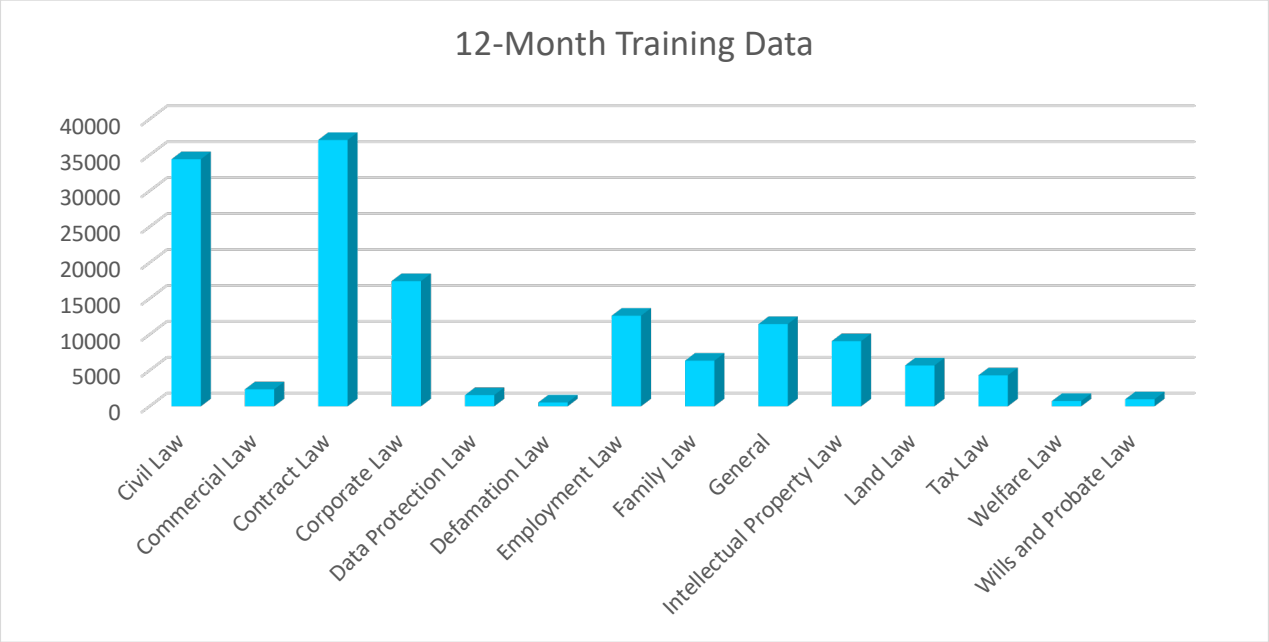


The above 12-month domain volume report provides a chart on the number of identified data files of each domain of law, this represents the data labelled and reviewed upon reaching the 12-month milestone. The chart provides that the Civil, Contract, Corporate, Employment, Intellectual Property, Land, and Tax Law domains continued to be most popular amongst the completed proportion of the dataset with a new addition of Family Law. Furthermore, the General section continued to be highly popular.

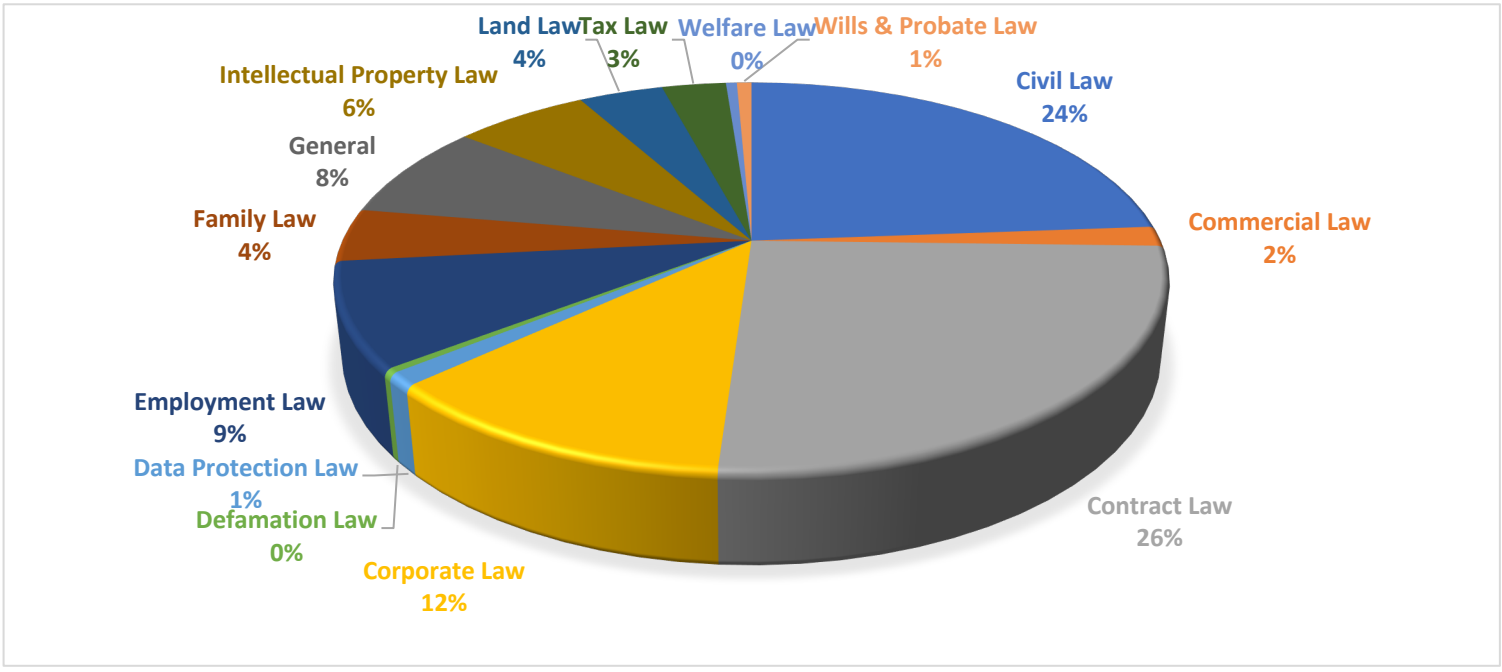


Legal Utopia is the trading name for Legal Utopia Limited which operates at their registered office in England and Wales at Level 30, The Leadenhall Building, 122 Leadenhall Street, London, EC3V 1AB. Legal Utopia Limited [no. 10909418]. Company Directors include Fraser J Matcham, Robert Marcus, Charles Sterling, and Paul Harper. © 2019 All Rights Reserve.

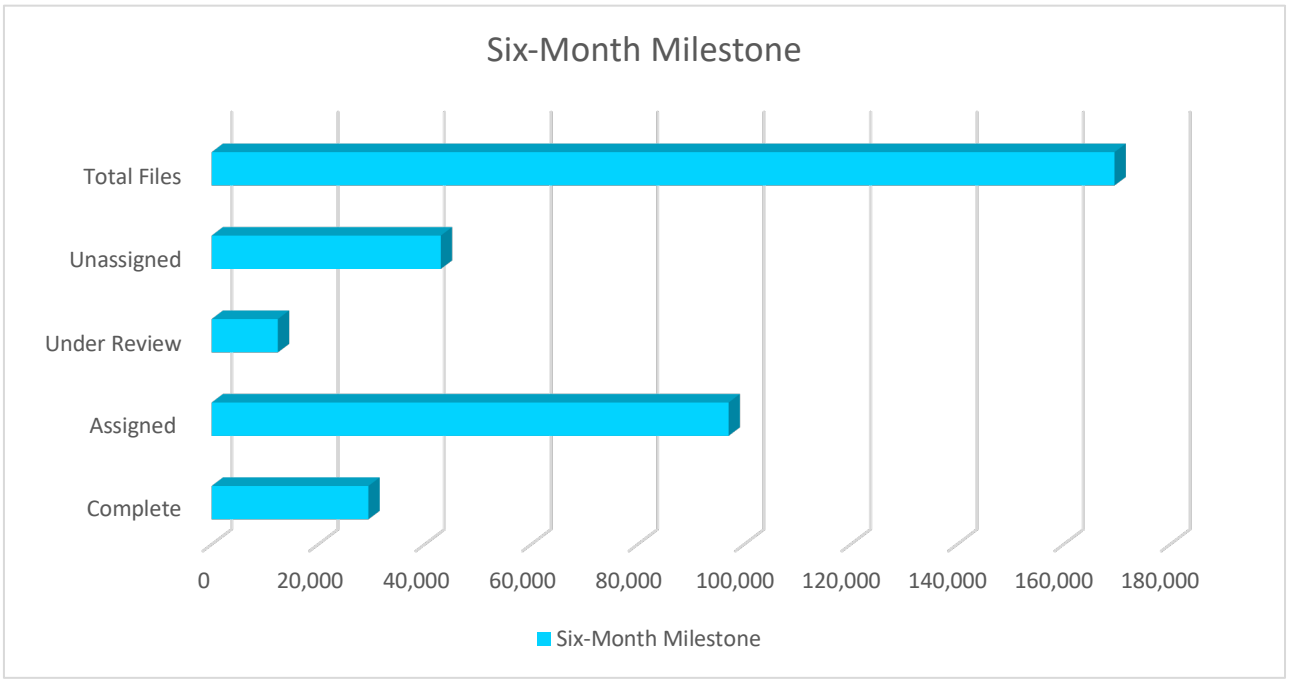
The above 6-month training data volume reflected the volume of natural language data available by domain for algorithm modelling. The selected domains from the research dataset were those that had the highest number of files, the lowest being 102 files and the highest being 6756 files.



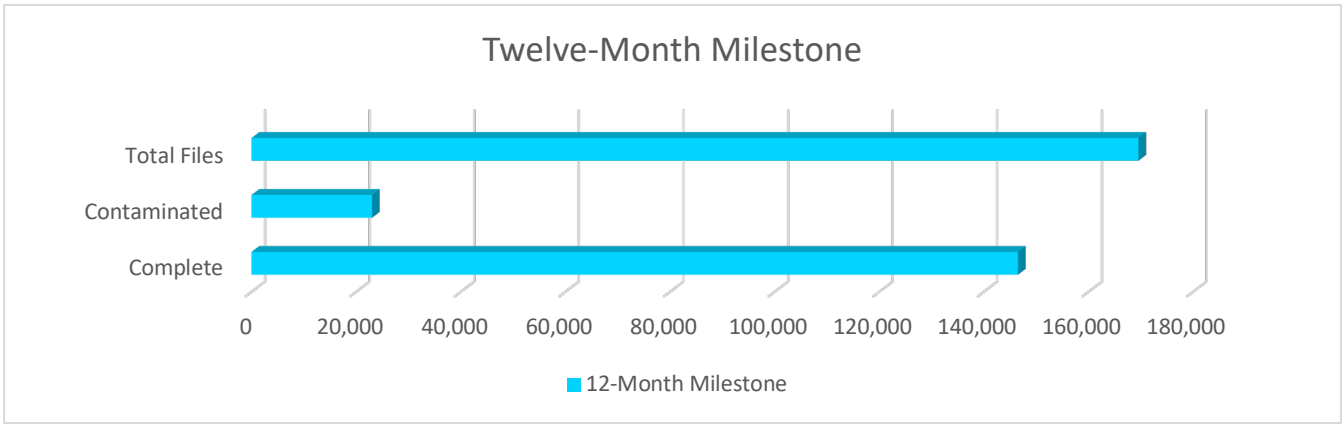
The above 12-month training data volume reflected the volume of natural language data available by domain for algorithm modelling. The selected domains from the research dataset were those that had the highest number of files, the lowest being 535 and the highest being 37,102 files.



Legal Utopia is the trading name for Legal Utopia Limited which operates at their registered office in England and Wales at Level 30, The Leadenhall Building, 122 Leadenhall Street, London, EC3V 1AB. Legal Utopia Limited [no. 10909418]. Company Directors include Fraser J Matcham, Robert Marcus, Charles Sterling, and Paul Harper. © 2019 All Rights Reserve.



The 6-month milestone report provides a domain data status report on the previous six-months data processing. At this milestone, Legal Utopia had identified 169,568 data files for processing and completed its review of 29,435 by this time. Additionally, there were 97,092 actively assigned to associate researchers undertaking the review and labelling process with an additional 12,434 under quality and compliance review. Finally, a total of 43,041 were to be assigned to associate researchers.

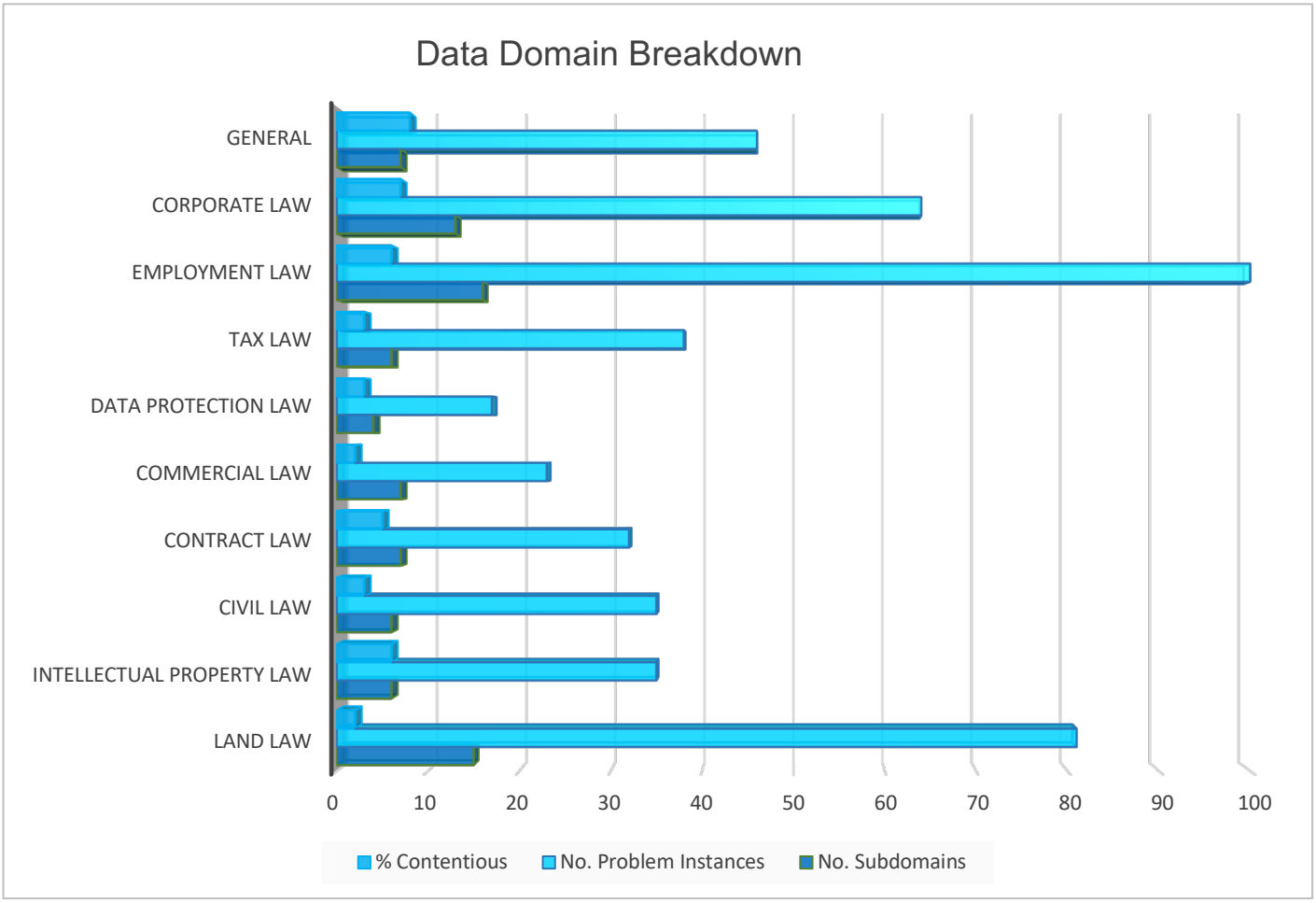


The 12-month milestone chart identifies the final outcome of the data research concerning consumers and small businesses describing or explaining their legal issue or dispute in the UK. The total files completed within this data research came to 146,536 participant files, an additional 23,032 were identified during the data processing phase as contaminated and unsuitable for modelling.

A contaminated file can range from insufficient content (such as a question; instead of a description or explanation), bilingual content (such as data comprised of two languages), or unrelated content (such as data unrelated to a consumer or small business legal issue or dispute).

Legal Utopia is the trading name for Legal Utopia Limited which operates at their registered office in England and Wales at Level 30, The Leadenhall Building, 122 Leadenhall Street, London, EC3V 1AB. Legal Utopia Limited [no. 10909418]. Company Directors include Fraser J Matcham, Robert Marcus, Charles Sterling, and Paul Harper. © 2019 All Rights Reserve.

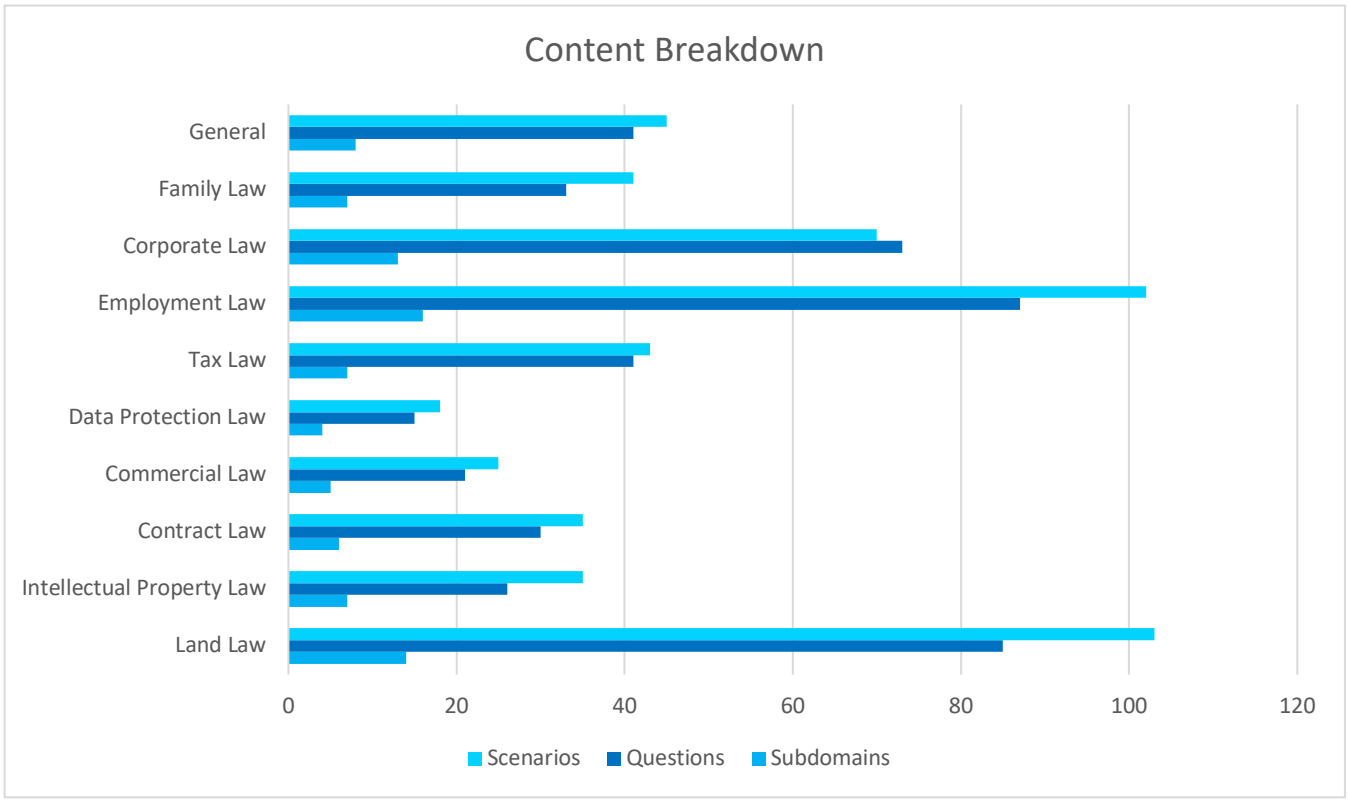
Where contaminated files were identified by researchers or the quality review team they were immediately deleted from our records.



The domain data breakdown chart provides a visual to the breadth of the domains incorporated into the Legal Utopia Engine (minimal viable product). This breakdown identifies the various number of unique problem instances associated with each domain of law, as well as the number of subdomains and the percentage of the problem instances within the domain considered to be contentious.

The chart provides that only between 2-7% of the problem instances across these ten domains were contentious, with the remaining non-contentious problem instances relating to enquiries into applicable legal rights, obligations, and legal processes oppose to specifically seeking to bring about or enable a formal contentious legal dispute.

Legal Utopia is the trading name for Legal Utopia Limited which operates at their registered office in England and Wales at Level 30, The Leadenhall Building, 122 Leadenhall Street, London, EC3V 1AB. Legal Utopia Limited [no. 10909418]. Company Directors include Fraser J Matcham, Robert Marcus, Charles Sterling, and Paul Harper. © 2019 All Rights Reserve.

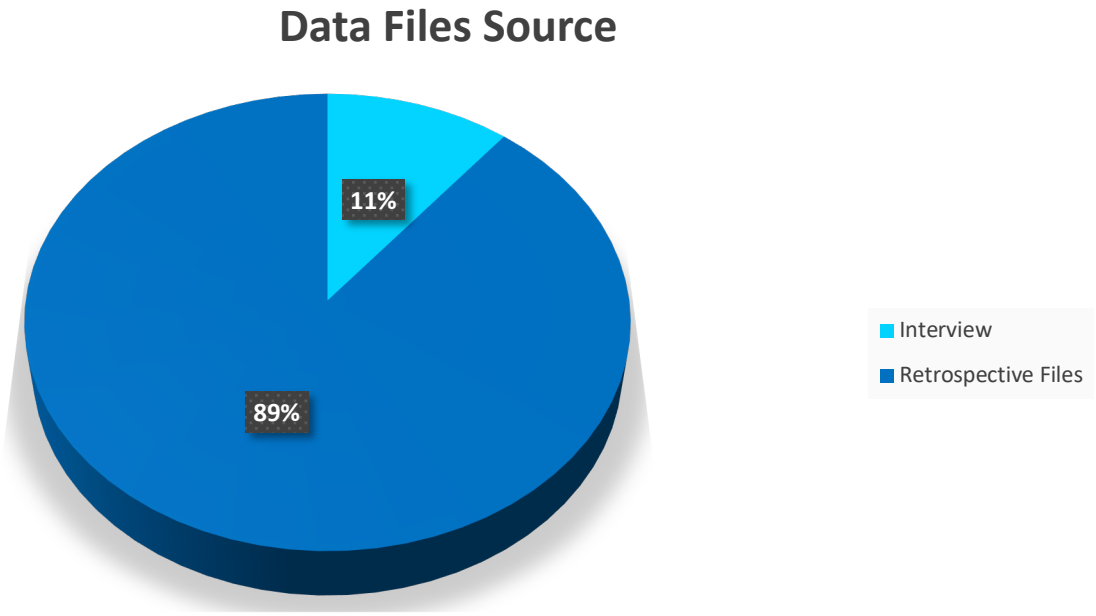


The above content breakdown provides the corresponding number of subdomains there are, the number of assist questions, and scenario circumstances identified to each domain of law present in the MVP dataset.

The data provides higher values to the domains of law that concern more subdomains of law, as a natural consequence these will have a greater number of corresponding assist questions as they concern each subdomain of law and as is the case to the application of the scenarios to each subdomain.

As can be identified from the data, Employment, Land and Corporate Law are areas with the greatest number of subdomains and, as such, questions and scenarios.

Legal Utopia is the trading name for Legal Utopia Limited which operates at their registered office in England and Wales at Level 30, The Leadenhall Building, 122 Leadenhall Street, London, EC3V 1AB. Legal Utopia Limited [no. 10909418]. Company Directors include Fraser J Matcham, Robert Marcus, Charles Sterling, and Paul Harper. © 2019 All Rights Reserve.



The above chart identified the percentage of files sourced from carrying out in-person interviews with consumers and small businesses, as well as data collection from retrospective file review and extraction. Overwhelming, and unsurprisingly, the practicality of the scale required identifies retrospective files as the main medium where data files were sourced accounting for 89% of the total dataset. A remaining 11% of the dataset was sourced from carrying our 18,347 in-person client interviews involving 22 researchers across England and Wales.

Example Data File:

Natural Language Expression:

> *"I have an ex-employer make the accusation that I had not followed an agreement as there were names on a usb drive in the previous year, a crap year has passed, and I am now receiving a number of letters threatening me. I said that I would have it checked properly but they are still threatening me with legal action unless I pay all their legal costs which are like thousands and I have a small family and don't want to see my home taken away."*

Natural Language Title:
"*Court Threat*"

Domain Label:
"Employment Law"

Subdomain Label:
"Employment Contract Advice"

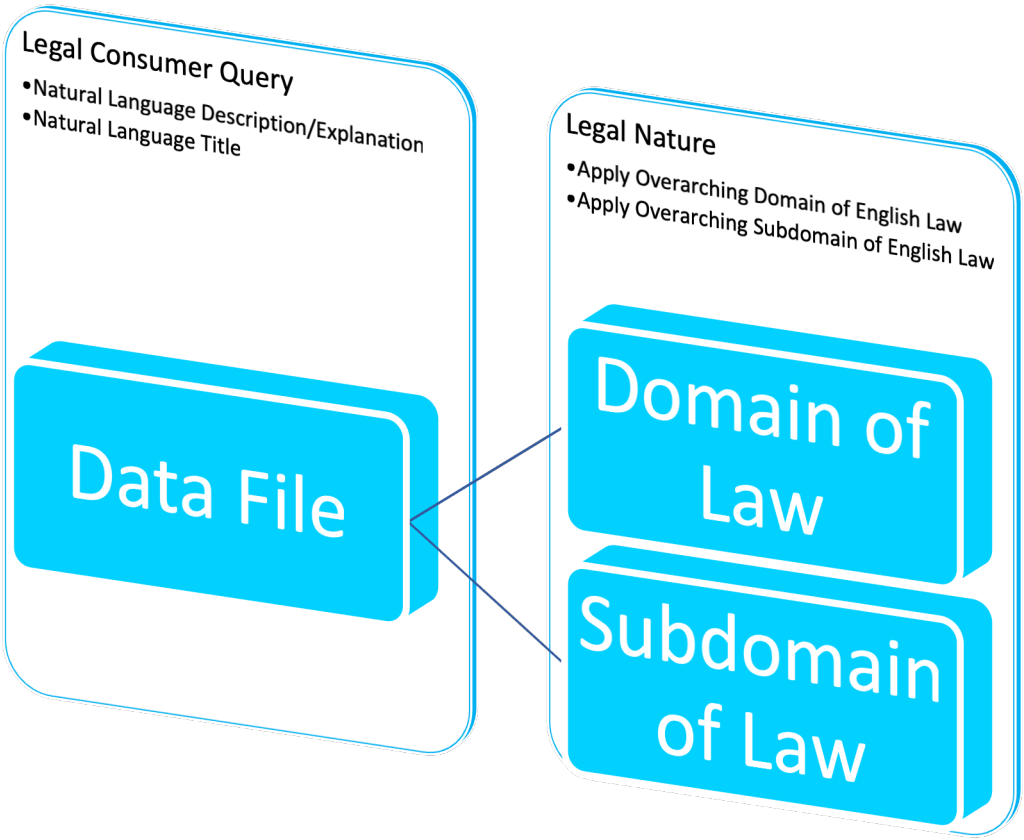
Legal Utopia is the trading name for Legal Utopia Limited which operates at their registered office in England and Wales at Level 30, The Leadenhall Building, 122 Leadenhall Street, London, EC3V 1AB. Legal Utopia Limited [no. 10909418]. Company Directors include Fraser J Matcham, Robert Marcus, Charles Sterling, and Paul Harper. © 2019 All Rights Reserve.

Limitations

The dataset obtained had a number of limitations, both on the certainty in numbers, as well as the distribution of data volume between domains and across subdomains with some areas either poorly represented or entirely unrepresented. The unrepresented areas also mirror the "data silos" that are prevalent across the industry, such as housing law. However, during our national stakeholder engagement process, it was relieving to hear of the work being or to be undertaken by the HMCTS during a consultation event at the Ministry of Justice.

The poorly represented or unrepresented areas create a limitation to our study and its outputs due to the high-quantity and quality of data required to obtain authoritative results. The high-quantity and quality of data also caused a limitation of the initial construction of the labelling framework and content structure, subsequently influencing the design of any outputs due to the need to standardise to ensure continuity.

Legal Utopia remains committed in continuing research and development to mitigate and, where possible, remove limitations identified.



Legal Utopia is the trading name for Legal Utopia Limited which operates at their registered office in England and Wales at Level 30, The Leadenhall Building, 122 Leadenhall Street, London, EC3V 1AB. Legal Utopia Limited [no. 10909418]. Company Directors include Fraser J Matcham, Robert Marcus, Charles Sterling, and Paul Harper. © 2019 All Rights Reserve.

DATA PROCESSING

Data Collection

To achieve the development aims of the artificial intelligence apparatus a substantial amount of structured and labelled data was required to sufficiently understand and map the needs and processes of legal consumers (see: Legal Research), as well as to model and train natural language processing algorithms to determine whether the proposed apparatus was possible.

As the primary objective of the artificial intelligence apparatus was to provide an autonomous end-to-end service directly to consumers, the natural language processing dataset would thus need to comprise of written natural language expressions of consumers legal problems. This had to be uninformed consumers who had no knowledge of the law that self-identify that they may have a legal issue or dispute, and the data must consist of the consumers own words.

The data collection phase had a document collection target of 100,000, each document would comprise of a case number, problem title, and natural language description at the time of collection. The case number was randomly generated, and the problem title and natural language description were generated at the discretion of the consumer. To enable a broad capability, the status of the specific issue or dispute any one consumer had was not limited, for example a consumer could express an issue at the pre-action stage or at the time of ongoing proceedings. In total, we identify several statuses when approaching or dealing with a legal issue or dispute which assisted the subsequent mapping process.

Initially, there was a structured approach to seeking the support of traditional law firms based in the United Kingdom to provide access to their client enquiry data in compliance with the project Data and Ethics Framework Protocol. This received a slim to negligible response from law firms, with one silver-circle law firm expressing interest but with impractical terms. Other law firms expressing interest in the project either fundamentally misunderstood the project output, did not align with the aims of the project, or they were solely interested in identifying the intentions of the project, the stakeholders and its potential impact on their own service delivery. An inherent lack of technology understanding was apparent. Progressing practical implementation discussions were unproductive and subsequently, approaching or working with law firms in this aspect of the project was abandoned.

Later, the research team then looked to the third sector including universities that operated or supported law clinics in their local area to provide access to their data, or to collect data in return for limited access to the proposed artificial intelligence apparatus. This yielded a noticeable difference in response to the project in both genuine interest and willingness to participate, however, although responsiveness was much higher than law firms, universities were particularly interested in identifying the intentions of the project, the stakeholders and its potential impact on their research base. These universities broadly exhibited a competitive agenda, this was to be expected at a stage of thriving interest in scaling collaborative commercial legal technology and artificial intelligence research

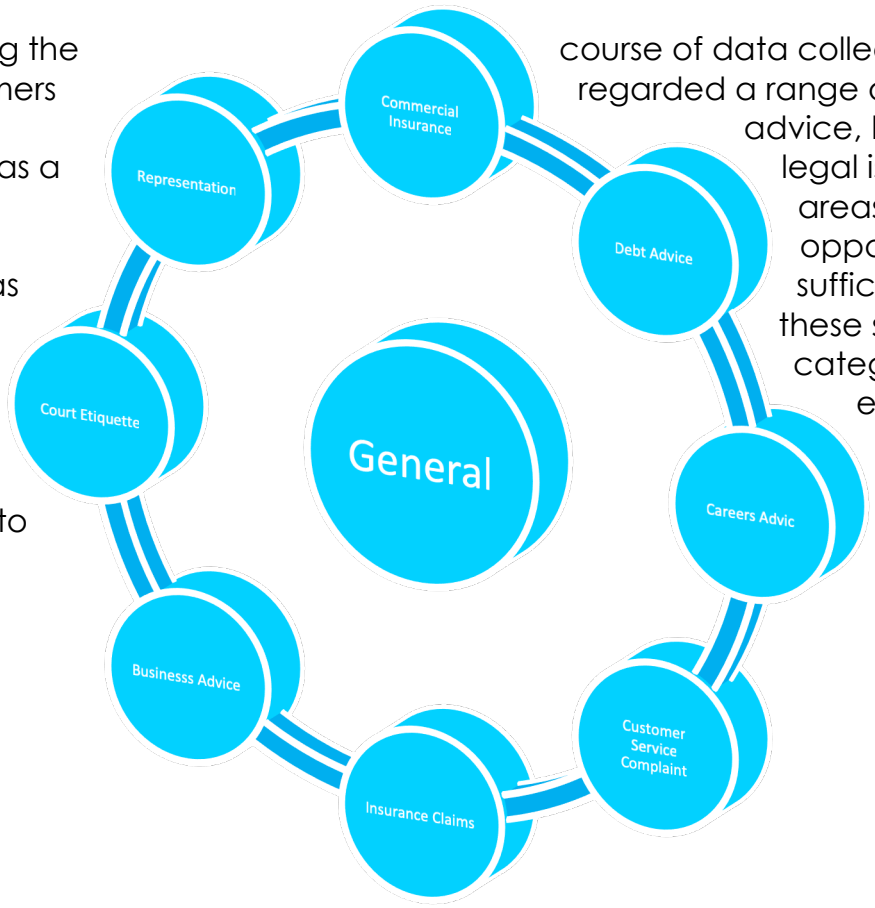
Legal Utopia is the trading name for Legal Utopia Limited which operates at their registered office in England and Wales at Level 30, The Leadenhall Building, 122 Leadenhall Street, London, EC3V 1AB. Legal Utopia Limited [no. 10909418]. Company Directors include Fraser J Matcham, Robert Marcus, Charles Sterling, and Paul Harper. © 2019 All Rights Reserve.

projects in academia, but unfortunate that it did not gain a greater sense of collaborative support to achieve a joint interest objective.

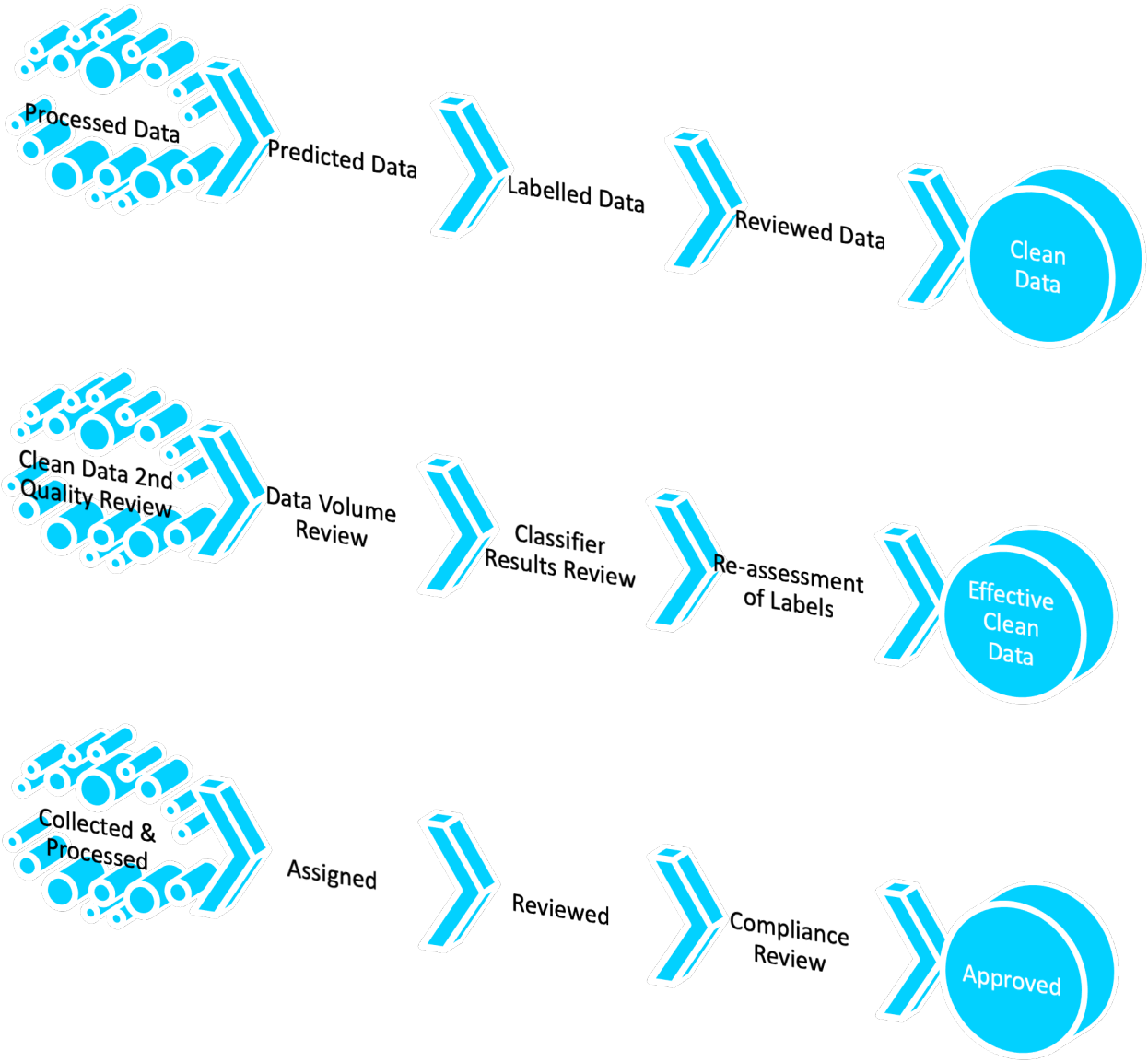
However, both regional and national legal services charities expressed extensive support of the project and the delivery of its envisaged artificial intelligence apparatus for legal consumers. This response was due to the alignment between both organisations on the key legal consumer issues; the project sought to resolve and a self-acceptance, that imminent change was necessary taking into account that the third-sector lacked the agile freedom, technological understanding and funds to reach meaningful results in the near future. However, many legal services charities were unable to provide access to their data due to several differing reasons and misconceptions with the top three reasons including lack of resource, lack of funds, and lack of digital literacy. These were inherent in undertaking this approach with the third sector and, in particular, during a time of uncertainty in legal aid funding, as well as the ongoing industry and political developments shaping decision making.

This resulted in six legal services charities and other legal services providers providing access to their data or to their clients to directly collect the data required, additionally access to run surveys amongst their clients was also utilised. This was envisaged to continue over a six-month period; however, this was extended to eight-months with data analysis after this period. The research team collected a total of 146,536 unique documents concerns a myriad of legal consumer issues and disputes for legal review and data analysis.

It was noted during the course of data collection, that self-identifying consumers regarded a range of social issues such as careers advice, business advice and debt advice as a legal issue. In total there were seven areas deemed to be social issues, opposed to legal issues. As there was sufficient data concerning all of these sub-domains, a "General" category was included to enable the diagnosis of these limited social issues and provide practical support to assist a user in solving them.



Legal Utopia is the trading name for Legal Utopia Limited which operates at their registered office in England and Wales at Level 30, The Leadenhall Building, 122 Leadenhall Street, London, EC3V 1AB. Legal Utopia Limited [no. 10909418]. Company Directors include Fraser J Matcham, Robert Marcus, Charles Sterling, and Paul Harper. © 2019 All Rights Reserve.



Limitations:

The need to undertake data collection was one of the main barriers to entry in utilising computer science expertise to research and develop the artificial intelligence apparatus in this project. It was noted that the initial industry discussions and consultations were undertaken at the time of the Cambridge Analytica debacle. This caused greater unease, alongside the enforcement of the General Data Protection Regulation and the obligations on providers related to confidentiality and privilege.

In addition to the process, the pre-requisite to require high-volume and high-quality data across the domains and sub-domains of law is a particularly acute limitation on the timescale of the development of the artificial intelligence apparatus. This is due to the specificity of the labelling process and the lack of "clean" and structured datasets, as the industry has not progressed with basic technological administrative progress; an abundance of valuable data is only attainable through extensive and expensive administrative review.

Legal Utopia is the trading name for Legal Utopia Limited which operates at their registered office in England and Wales at Level 30, The Leadenhall Building, 122 Leadenhall Street, London, EC3V 1AB. Legal Utopia Limited [no. 10909418]. Company Directors include Fraser J Matcham, Robert Marcus, Charles Sterling, and Paul Harper. © 2019 All Rights Reserve.

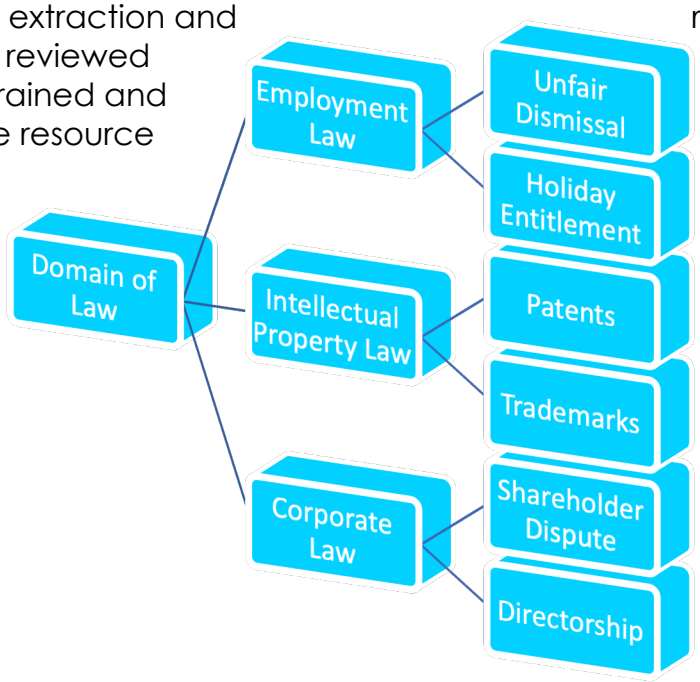
Furthermore, as the data itself places reliance on the consumer expression and interpretation of a legal problem, the dataset will have to continually adapt to changing perceptions and expressions in society of these legal problems. Otherwise, the algorithms could mis-categorise the legal problem based on outdated consumer lexis.

Data Labelling:

The collected data needed to be organised, structured and labelled manually to then form an authoritative dataset which could be used to begin training a range of algorithms to develop the natural language processing engine. The approach to each element had to consider a range of factors, due to the varying type of expertise required to label the data, as well as to reduce the administrative time of adjusting spreadsheets and tracking team contributions and targets.

Approaching these factors, we considered an intelligence factor that could aid the project research outcomes. This was to generate a small training set across a range of domains of law and use this to create a prototype algorithm and apply it to the remaining unlabelled dataset, although this was done in the knowledge of poor and limited results it would operate as a comparative to algorithm modelling improvements between a small labelled dataset being applied to an unlabelled dataset, but additionally, it slightly increased the organisation of the unlabelled data to enable more streamlined data labelling delegation to legal resource.

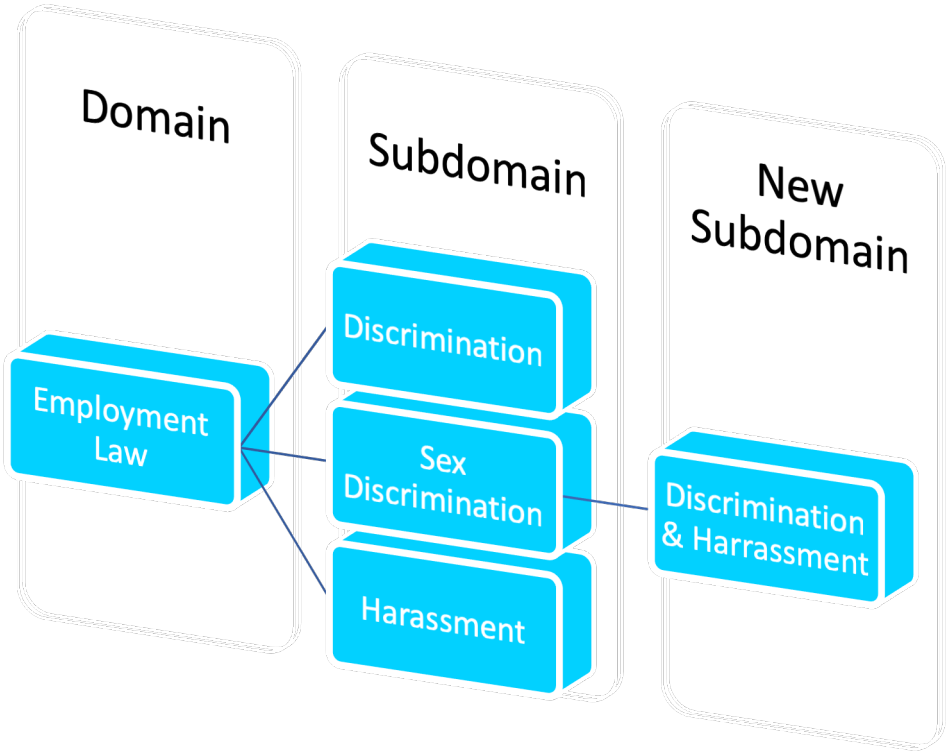
An accurately labelled dataset of 5,000 files was provided across a limited number of fields of law to then create an algorithm that could predict the potential domain of law the unlabelled data would be categorised as. Again, this process was envisaged to result in poor algorithmic performance, but it would act as a considerably interesting metric tool to understand the increasing performance of subsequent algorithms as the manual data labelling process continued. This further enabled the research co-ordinators to distribute data for labelling with a greater level of certainty, reducing the overall number of unlabelled files requiring extraction and re-distribution. As more labelled data was reviewed and approved, algorithms could be re-trained and applied in the same fashion to increase resource performance.



Legal Utopia is the trading name for Legal Utopia Limited which operates at their registered office in England and Wales at Level 30, The Leadenhall Building, 122 Leadenhall Street, London, EC3V 1AB. Legal Utopia Limited [no. 10909418]. Company Directors include Fraser J Matcham, Robert Marcus, Charles Sterling, and Paul Harper. © 2019 All Rights Reserve.

Due to the algorithms' limitations, further considerable mechanisms and safeguards had to be implemented to ensure that the data was accurately managed, delegated and labelled by the relevant individual based on corresponding legal knowledge and expertise. To achieve this, a substantial corpus of the dataset was initially labelled across the most popular and prevalent domains and sub-domains of law. This provided a representative sample of the entire dataset to then predict the likely popularity of certain domains and sub-domains to co-ordinate the relevant extent of legal expertise needed to undertake the review, along with making an assessment of the complexity of the legal issues or disputes to make a determination of the relevant level of legal expertise needed to manually review the data files.

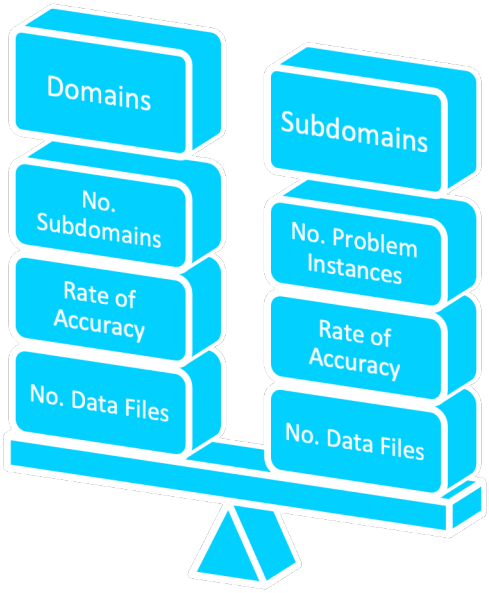
On completion of the review of 10,000 files, it was determined that the legal issues and disputes expressed or described within the data files were of rather minor concern. Furthermore, it was considered, due to the fact that the labelling process was to undertake the categorisation of the legal issue or dispute to a domain and subdomain of law, and not the assessment of merit or legal grounds, it would be sufficient for law students undertaking a qualifying law degree in the UK to identify the relevant domains and sub-domains of law and how these domains and sub-domains can be applied to legal issues or disputes described by consumers. Although most subsequent researchers were postgraduates, paralegals and solicitors.



The involvement of a number of law students also required safeguarding measures to protect all parties involved in the project, as well as the confidentiality of the data files themselves and the integrity of the labelling process. As such, the Data and Ethics Framework Protocol included requirements of non-disclosure agreements, training and, additionally, Legal Utopia imposes limitations of the number of data files provided at any one time, along with a triage reference file to maintain continuity of data labels

Legal Utopia is the trading name for Legal Utopia Limited which operates at their registered office in England and Wales at Level 30, The Leadenhall Building, 122 Leadenhall Street, London, EC3V 1AB. Legal Utopia Limited [no. 10909418]. Company Directors include Fraser J Matcham, Robert Marcus, Charles Sterling, and Paul Harper. © 2019 All Rights Reserve.

themselves and cyber-security requirements including the operation of a virtual private network in exchanging data files, or correspondence concerning the data files.



The data labelling process was of particular significance to the success of the project as it fundamentally created continuity and standardisation across the data labelling team. This was challenging to implement with a continually fluid and expanding range of labels as the initial phase of data review was undertaken.

This reflected the importance of the inclusion of a training requirement for all volunteers involved in the data labelling process and the forthcoming segment on data quality review. A range of different volunteers had a range of different understandings of how problems are categorised in legal fields, in addition, the fact that many legal problems can be concerned with multiple areas of law or other applicable social areas it was challenging to identify the overriding applicable legal category.

However, as the mapping process was built upon and approached with an agile methodology, whilst being aware of the fundamental demands of natural language processing the majority of the expected limitations were overcome. Although, to build upon the proficiency of the artificial intelligence apparatus it equally requires a substantial amount of high-quality data, alongside expert subject matter expertise to analyse, map and construct appropriate validation mechanisms to sufficiently prevent misdiagnosis.

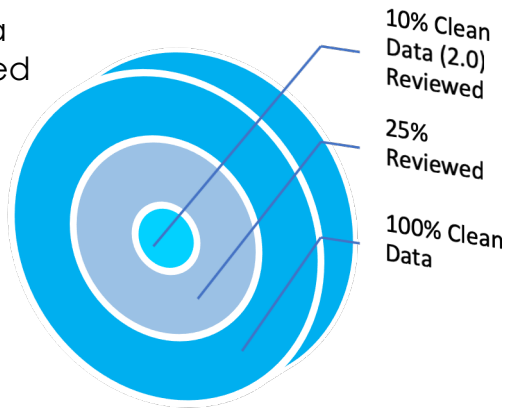
It should also be noted, that the diversity of the diagnosis capability being central to the commercial value proposition is challenging due to the management of multiple potential outcomes oppose to training an algorithm on a binary outcome. As such, this requires a range of validation mechanisms and assistance inputs to support the diagnosis process to achieve an appropriate specificity of output in a commercial setting. This consideration reflects the motivations of commercial application required to overcome this limitation, oppose to purely academic outputs.

*Note that 'Rate of Accuracy' in the above graphic is based on the evaluation results F1 Scores.

Legal Utopia is the trading name for Legal Utopia Limited which operates at their registered office in England and Wales at Level 30, The Leadenhall Building, 122 Leadenhall Street, London, EC3V 1AB. Legal Utopia Limited [no. 10909418]. Company Directors include Fraser J Matcham, Robert Marcus, Charles Sterling, and Paul Harper. © 2019 All Rights Reserve.

Data Quality Review:

To protect the integrity of the data labelling process, a data review by a co-ordinator or project manager was conducted on each data file labelled by a researcher of no less than 25% of the labelled data files. If the data files were mis-categorised to a ratio greater than 5/100 the data file would be contaminated, and a full review of the remaining data file would be undertaken. The researcher responsible for the contaminated data file would be further trained and monitored for further mislabelling and, if necessary, removed from the process.



A further selection of the labelled and reviewed data would then be randomly selected from the amalgamated data set for quality review with 10% of the total dataset further assessed for incorrect labels. Any mis-categorised data to a ratio greater than 1/100 would cause a secondary, extended review of a further 10%. This review process did identify one instance where the ratio was exceeded, and a full review was subsequently triggered.

Limitations:

The data quality review was integral to ensure proficiently trustworthy results, assisted by other processes and procedures put in place to support the data collection and labelling stages. The data quality review was undertaken by team members and co-ordinators to guarantee continuity and to identify areas of potential contamination or bias, caused by the data itself, the individual reviewing the data, or caused by the guidance / training / instructions put in place. Additionally, the review was also utilised as a personal data safeguarding mechanism to identify any explicit or contextual personal data incorporated amongst the data files.

The data quality review did impose a restriction on the volume of reviewed data to ensure practicality and meet project timescales, this was informed by a review of labelled amalgamated data to understand and measure the average error rate. Utilising this insight, an error ratio was identified that would provide a threshold for the extent of the review of each labelled data submission. For example, a review of a random selection of the submitted data amounting to 25% of the total submission would be reviewed and the corrected errors would be recorded and added up to a total. If this total exceeded the error ratio the entire data submission would have to be quality reviewed, if not it would be subsequently used for algorithm training.

Data Mapping:

A significant and continuous review was required to map the entire unlabelled, labelled, and predicted datasets, alongside the platform processes, process commands (triggers), systems communication, and the corresponding content outputs including services, portals, resources and more by the project co-ordinators and wider research and

Legal Utopia is the trading name for Legal Utopia Limited which operates at their registered office in England and Wales at Level 30, The Leadenhall Building, 122 Leadenhall Street, London, EC3V 1AB. Legal Utopia Limited [no. 10909418]. Company Directors include Fraser J Matcham, Robert Marcus, Charles Sterling, and Paul Harper. © 2019 All Rights Reserve.

development team to visualise the expanse of the platform variables, of which, where extensive.

This visualisation process was pivotally important to inform the development and design process and was subsequently informed by consumer market research, user feedback, and behavioural analytics. The continuous review of the various elements of the platform and its mapping supported the co-ordination of the inter-linking elements, alongside the approach to constructing an informed system triage with a modular programming approach to support future amendments and additions.

Additionally, to provide strategic understanding of the national landscape of legal services provision and interconnected supporting social and other service providers, the geographical location of these services providers and their corresponding areas of expertise were mapped. This helped us to understand, co-ordinate and incubate the areas of service provision that require online portals or services that provide subject-matter expertise to consumers to support the wider ecosystem nationally; this was necessary to carry out as there was no known open API or source available during the research period that met the meta-data minimum requirements.

This further supports the service provision of the Legal Utopia Application to provide reference to relevant applications or services based on the legal problem identified.

Limitations:

The data mapping was linked in a variety of ways to inform and infer how to proceed with the research, as well as the approach taken to the research development outputs. The analysis was concerned with a range of information points including field of law, sub-field of law, sentiment, word count, character count, word frequency, to name a few. However, the output of this analysis is limited to the types of legal problems identified which ranged but ultimately focused around consumer orientated areas of law reflective of the sources of such data.

Additionally, the research was unable to gain demographic or geographical insights to the data subjects due to the restrictions imposed.

The national landscape of legal service provision and interconnected support providers as an area of research was constructed via various online resources. This created a tiresome research approach to an otherwise simple expectation of industry to know and understand who is doing what, and where.

Legal Utopia is the trading name for Legal Utopia Limited which operates at their registered office in England and Wales at Level 30, The Leadenhall Building, 122 Leadenhall Street, London, EC3V 1AB. Legal Utopia Limited [no. 10909418]. Company Directors include Fraser J Matcham, Robert Marcus, Charles Sterling, and Paul Harper. © 2019 All Rights Reserve.

CONTENT & DESIGN

Legal Content:

The composure and curation of the legal content (i.e. legal guidance content) that would feature on the platform was of significant importance, not only to enable the users of the application to proficiently consume and digest the content to enable them to take appropriate decisions in relation to particular legal issues or disputes, but also to ensure that the content is accurate, up-to-date and outside of the confines of legal advice of which, in part, is a reserved activity within certain fields, individuals or regulated organisations. However, the platform seeks to encroach, progressively, into this grey area to identify more clearly the boundary lines and has appropriately consulted the Solicitors Regulation Authority and our insurance provider.

The applications core value proposition is the ability to present legal guidance to individual consumers, based on consumer problem analysis and feedback. The legal guidance provided remains drafted in generic terms, seeking to build awareness of the most relevant legal requirements and considerations in order to prevent loss and encourage proactive steps to ultimately aid a decision and, therefore, whichever steps the consumer identifies as appropriate in their circumstances.

The legal guidance is further added to with the recommendations of legal services providers, comprising of both for-profit and non-profit providers in the United Kingdom to provide the option for users to consult an appropriate provider of legal advice relevant and appropriate to their particular legal issue or dispute. This output was the secondary value proposition to users based on feedback with a consistency of users expressing significant difficulty with identifying the relevant legal service providers via conventional search engines or confidence in recommendations.

It was a key consideration that the user is not forced into a decision or limited to a particular provider or services that would encourage, nor discourage seeking legal advice from a qualified professional, bring litigation or otherwise present bias to a particular resolution or ‘next step’ method. The fundamental consideration of the platform is to provide an outcome that provided as many relevant options as possible, whether that was providing information on local and appropriate services providers, or online dispute resolution tools, toolkits or guidance. The prerogative of which next steps will always remain with the user.

However, our approach to the inclusion of available and relevant services is ranked on a range of criteria including reputation, transparency, customer service satisfaction and more. We intent on further developing our criteria with industry partners based on consumer and user feedback.

Due to the importance of the content outputs outlined above, numerous steps were taken to ensure that the content was as exhaustive as possible within the constraints of the applications objective, as well as embedding safeguarding checks by appropriately qualified and experienced professionals. As such, Legal Utopia, acting as co-ordinators worked directly with practitioners of Westminster Law School, the University of Westminster;

Legal Utopia is the trading name for Legal Utopia Limited which operates at their registered office in England and Wales at Level 30, The Leadenhall Building, 122 Leadenhall Street, London, EC3V 1AB. Legal Utopia Limited [no. 10909418]. Company Directors include Fraser J Matcham, Robert Marcus, Charles Sterling, and Paul Harper. © 2019 All Rights Reserve.

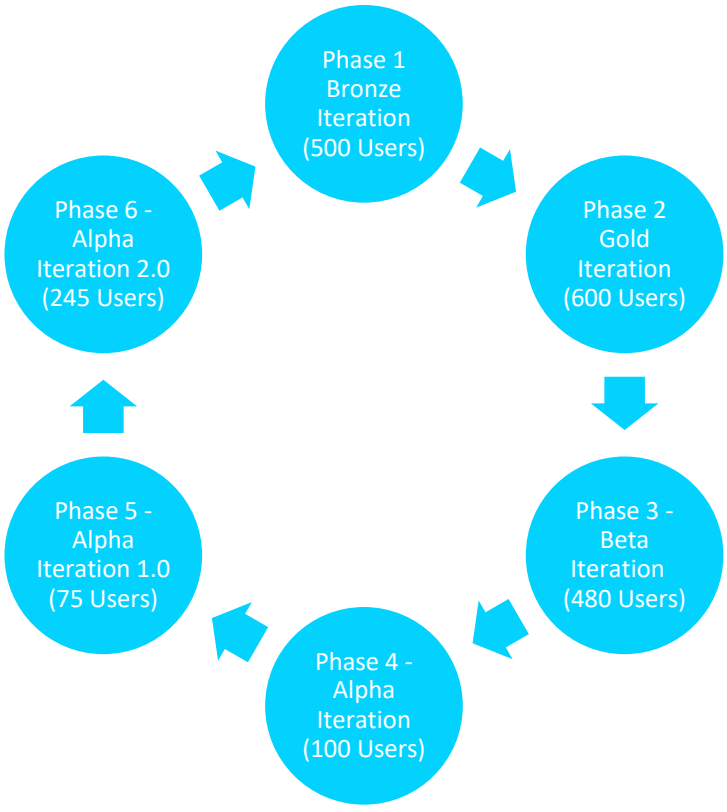
and lawyers from Baker McKenzie LLP, Norton Rose Fulbright LLP, Dentons UK and Middle-East LLP, and Mishcon De Reya LLP.

This consortium, including other, comprised of members working together across both private, academic, and third-sector organisations with most of its members not previously carrying out a pro-bono project of this type, in particular, combining legal and computer science expertise to contribute to a technology-enabled social access to law application.

Application Design:

A highly agile approach was incorporated in the development of the application design, with an initial offline prototype presented for aesthetic design feedback and functionality with embedded analytical feedback of user expectations and behaviour following initial prototype design. This agile workflow was informed by consulting 4000 individuals throughout the research period and 6 phases, 500 of which were consulted on the application aesthetic design and overall functionality; 245 of which were consulted on the expectations of mobile application and demonstrated use of the application; 600 of which were consulted on the Gold Iteration; 480 of which were consulted on the Beta Iteration; 100 of which were consulted on the Alpha Iteration; and the remaining 75 were consulted on the Alpha Iteration 1.0.

The participants were identified by a range of methods including attending legal services providers across the UK, providing online access to specific individuals with registered interest and ad hoc interviews with a varying range of interested parties matching anticipated user consumer demographic personas.



Legal Utopia is the trading name for Legal Utopia Limited which operates at their registered office in England and Wales at Level 30, The Leadenhall Building, 122 Leadenhall Street, London, EC3V 1AB. Legal Utopia Limited [no. 10909418]. Company Directors include Fraser J Matcham, Robert Marcus, Charles Sterling, and Paul Harper. © 2019 All Rights Reserve.

The above flow cycle provides an overview of the user feedback consultations undertaken over a 6-month period during product development. Each phase comprised of a new design based on user feedback, this feedback was comprised into reports by researchers and provided to the research co-ordinators to then comprise a master report at each phase. The master report provided detailed design instructions to the research UI/UX designer to then create the next iteration.

The above process was repeated at each phase until the product development period expired and the feedback reports no longer communicated a pattern of amendments to design or functionality.

The applications design varied substantially during the product development period requiring thousands of sample screens and amendments to reach a consistent design reflective of user requirements and modern design expectations.

Legal Utopia is the trading name for Legal Utopia Limited which operates at their registered office in England and Wales at Level 30, The Leadenhall Building, 122 Leadenhall Street, London, EC3V 1AB. Legal Utopia Limited [no. 10909418]. Company Directors include Fraser J Matcham, Robert Marcus, Charles Sterling, and Paul Harper. © 2019 All Rights Reserve.

MACHINE LEARNING

Summary

The aim of the project was to create classifier algorithms that can accept any expression or description of a legal problem by way of written English natural language text. The parameters of the project created difficulty due to the nature of the need to deliver a commercial value proposition, meanwhile ensuring adequate and authoritative results to form part of and deliver the value proposition.

Although the data pipelines and classification results are not developed upon within this study, the capability arising from applying a breadth of legal and data research combined with new machine learning techniques established evaluated and sufficient results that warranted commercial application and by-product patentability.

Requirements

The core requirements of the commercial application was to allow any individual user to express their legal problem in their own written words. This immediately created two significant interconnected barriers to overcome:

> (1) the ability for a classifier to classify a legal problem type may be highly successful with regard to its rate of accuracy, however, its accuracy is going to significantly reduce when it is a non-binary classification (which remain non-exhaustive),
>
> (2) providing every user with the ability to explain or describe their legal problem in their own words places significant dependency on linguistic patterns which the classifier can detect and correlate.

In order to deliver the value proposition there is a need to refine the legal problem to a particular legal issue or dispute. To identify the issue or dispute creates another range of sub-variables to each domain and, therefore, there is an additional dependency on the classifier to have sufficient data on each subdomain of law, as well as the (again) linguistic patterns between each subdomain option to make classification sufficiently feasible and authoritative. Each different submission by the user could be one of a varying range of multiple non-exhaustive domains (i.e. within the apparatus proficiency and outside of the apparatus proficiency) and multiple non-exhaustive subdomains (i.e. traditionally within the scope of the domain and within the scope but without sufficient data).

The addition of the subdomain also created a further strain on the overall classification capability, as not only is there volatility in the linguistic analysis (noise) but also a significantly uneven distribution of data to every domain and subdomain of law identified. In addition to data volume, linguistic patterns will vary per domain of law and within the subsets of data that apply to each subdomain of law in which a classifier will need to identify to come to a prediction; this causes the challenge of creating or incorporating new data points that balance these variables.

Legal Utopia is the trading name for Legal Utopia Limited which operates at their registered office in England and Wales at Level 30, The Leadenhall Building, 122 Leadenhall Street, London, EC3V 1AB. Legal Utopia Limited [no. 10909418]. Company Directors include Fraser J Matcham, Robert Marcus, Charles Sterling, and Paul Harper. © 2019 All Rights Reserve.

The above highlights the necessity and demand for investigative evaluation of the factors associated with and which causes poor performance based on the evaluation metrics available to use (accuracy, recall, precision, F1 Score, K-sets) per domain of law and subdomain of law.

At the time of undertaking this research and development work and writing this study, to our knowledge, this particular task has not been undertaken before on the natural language explanations and descriptions of legal problems by consumers and small businesses in the United Kingdom. The closest comparative machine learning research in the UK has been on an insignificant (in consideration of the undertaking and likely number of variable components) dataset of consumer legal questions; this research and its outcomes have not been published.

Project Efficiency

In addition to the artificial intelligence apparatus, Legal Utopia also utilised machine learning to measure and increase its project efficiency in a number of small ways that generated significant time saving.

a) Data Labelling

The development of machine learning algorithms are almost entirely data dependant and to reasonably achieve any value output a significant amount of clean natural language data was required to fully understand the capability for classification algorithms to identify legal queries by domain and subdomain of law.

The legal research team were faced, post-extraction, with 146,536 data files each to undergo a thorough quality and compliance assessment. This had to be done within a limited time period, with researchers' legal competence varying significantly and it could not be determined whether a data file was categorised as any one domain or subdomain of law to allocate to the relevant researcher. To optimise resource allocated, project co-ordinators conducted an initial labelling of 5000 data files to understand the types of domains and subdomains of law and then created an algorithm to predict the domain of law and organise the data on the basis of the domain.

The above broke down the data and segregated it into spreadsheets for allocation to the right resource. Obviously, this was a poorly performing algorithm at the outset within certain domain of law and new domains discovered whilst labelling, however, performance was moderate in other areas creating an efficiency saving on the otherwise blind allocation of data.

Furthermore, the co-ordinators sought to then understand the median number of words used to explain or describe a consumers' legal problem. The co-ordinators then used this to segregate the data files by short and long designations. A short data file was the median number of words and below that it took a legal consumer to describe

Legal Utopia is the trading name for Legal Utopia Limited which operates at their registered office in England and Wales at Level 30, The Leadenhall Building, 122 Leadenhall Street, London, EC3V 1AB. Legal Utopia Limited [no. 10909418]. Company Directors include Fraser J Matcham, Robert Marcus, Charles Sterling, and Paul Harper. © 2019 All Rights Reserve.

or explain their legal problem. The project co-ordinators could then prioritise these files for labelling and subsequent training.

The re-training of the algorithm that could predict the domain of law of a data file could then be applied to the remaining data files that needed to be labelled, again improving resource allocation for a time sensitive task.

b) The legal research included seeking to understand how legal consumers were better informed or had a greater understand of their legal problem post-legal advice, opposed to pre-legal advice.

   The project co-ordinators identified a sample of data files at the time of extraction in interview (prior to receiving legal advice) and then again after consultation with a solicitor (post-advice)and applied a classification algorithm that could classify words as either a "legal term" or a "non-legal term". These terms were taken from a non-exhaustive list of terms identified from a professional services regulator.

   The algorithm was applied to a 500 data file sample for each interview (total of 1000: 500 unique cases), from this we could identify if legal consumers were perceived to describe or explain their legal problem in a greater and relevant legal context. This would imply a greater understanding and, subsequent, confidence in their legal problem.

Legal Utopia is the trading name for Legal Utopia Limited which operates at their registered office in England and Wales at Level 30, The Leadenhall Building, 122 Leadenhall Street, London, EC3V 1AB. Legal Utopia Limited [no. 10909418]. Company Directors include Fraser J Matcham, Robert Marcus, Charles Sterling, and Paul Harper. © 2019 All Rights Reserve.

RESEARCH DATA AND ETHICS

This research project saw the creation, approval and implementation of a 'Data and Ethics Framework Protocol' provided by Dr Paresh Kathrani (previously Project Research Co-Ordinator), Senior Lecturer at the University of Westminster, Westminster Law School (now Director of Education and Training at the Chartered Institute of Arbitrators).

The research project, as required by the University of Westminster, underwent, prior to initiation, a research ethics assessment by the Ethics Committee of the Social Sciences and Humanities Faculty. This Ethics Committee approved the research project, including the Data and Ethics Framework Protocol, subject to express conditions. Below, this research study provides the elements of consideration; the requirements and conditions of the project in meeting its objective.

Golden Thread

As the initial training data collection element of the project will involve accessing data from legal consumer files, as well as conducting personal interviews, an ethics application was made to the University of Westminster's Faculty of Social Sciences and Humanities (SSH) Research Ethics Committee and was approved.

At the core of this ethics application was the data protection 'golden thread':

1. *All Legal Utopia volunteers involved in capturing the data on the questionnaires will receive training from Legal Utopia and the University of Westminster on handling personal data with sensitivity, confidentiality and in accordance with data protection regulations and this will be monitored on an ongoing basis.*
2. *Files: Where Legal Utopia volunteers peruse written files for the natural language data about cases, they will ask the legal services providers to anonymise the case files by hiding all names. The Legal Utopia volunteers will then use a set of questions on the secure JISC Online Survey platform to extract relevant natural language data from that file and they will enter this information directly onto the secure JISC Online Survey platform. This information will then be downloaded by Westminster Law School. At this stage, Westminster Law School will act as a filter and will double-check to ensure that no data has been gathered that either directly or indirectly identifies any person information. All individual data will be combined into one mass or general set. No personal data at all will be identifiable in any way whatsoever once the data has been turned into a raw set for use by the Department of Computer Science in developing the platform. All such downloaded data will further be placed on an encrypted system to ensure that it is secured. This generic set will then be transferred to the Department of Computer Science to produce an artificial intelligence platform. Staff at the Department of Computer Science will also use this same encrypted system to ensure the data is protected.*
3. *Personal Interviews: Where Legal Utopia volunteers conduct oral interviews with legal consumers and legal services providers, the same secure work flow described at paragraph 2 above from the use of the secure JISC Online Survey platform to*

Legal Utopia is the trading name for Legal Utopia Limited which operates at their registered office in England and Wales at Level 30, The Leadenhall Building, 122 Leadenhall Street, London, EC3V 1AB. Legal Utopia Limited [no. 10909418]. Company Directors include Fraser J Matcham, Robert Marcus, Charles Sterling, and Paul Harper. © 2019 All Rights Reserve.

collect data through the use of the encrypted system by the team at the Department of Computer Science will be used.

4. *Regardless of whether the data is collected from files or from personal interviews, all participants whose data will be collected will be provided with a copy of the Participant Information Sheet beforehand, as well as a consent form, and no data at all will be accessed until a copy of the signed consent form is received.*
5. *All participants will be told that they will have access to all the data that is collected on them up until the University of Westminster renders it into mass, anonymised raw data to be used in developing the platform and that they can withdraw from the research up until this time.*
6. *All participants will be told that, even if they do not ask for their data to be withdrawn, all specific data collected on the JISC Online Survey platform will be destroyed once it have been rendered into mass, anonymised raw data to be used in developing the platform.*
7. *All participants will be told that they can contact Catherine Pedámon at Westminster Law School or Markos Mentzelopoulos at the Department of Computer Science, University of Westminster, if they have any complaints or wish to discuss their research.*
8. *They will be told that they will be informed in writing once the project is complete and will be notified about its outcomes and outputs at the end should they wish to opt in and again, they will not be identifiable in these.*

This thread must be upheld throughout the project and constitutes a core part of the Legal Utopia Data Collection Ethics Framework.

In addition, the application was approved on the condition that at data collection readiness the team will consult a specified IT security specialist of the University's Security and Compliance team to '*discuss secure storage and transfer spaces and then implement this to his satisfaction'*.

Furthermore, the chair set down general ethics conditions:

"*Your responsibility to notify the Research Ethics Committee immediately of any information received by you, or of which you become aware, which would cast doubt upon, or alter, any information contained in the original application, or a later amendment, submitted to the Research Ethics Committee and/or which would raise questions about the safety and/or continued conduct of the research.*

The need to comply with the Data Protection Act 1998.

The need to comply, through the conduct of the study, with good research practice standards.

The need to refer proposed amendments to the protocol to the Research Ethics Committee for further review and to obtained Research Ethics Committee approval thereto prior to implementation (except only in cases of emergency when the welfare of the subject is paramount).

Legal Utopia is the trading name for Legal Utopia Limited which operates at their registered office in England and Wales at Level 30, The Leadenhall Building, 122 Leadenhall Street, London, EC3V 1AB. Legal Utopia Limited [no. 10909418]. Company Directors include Fraser J Matcham, Robert Marcus, Charles Sterling, and Paul Harper. © 2019 All Rights Reserve.

The desirability of including full details of the consent form in an appendix to your research, and of addressing specifically ethical issues in your methodological discussion.

The requirement to furnish the Research Ethics Committee with details of the conclusion and outcome of the project, and to inform the Research Ethics Committee should the research be discontinued. The Committee would prefer a concise summary of the conclusion and outcome of the project, which would fit no more than one side of A4 paper, please".

The data coordinators will meet with a specified IT security specialist before data collection commences to discuss the encrypted system referred to above. All of the above too form part of this Legal Utopia Data Collection Ethics Framework.

9. Apart from the above, it is important that all application ethical and legal requirements, particularly from the General Data Protection Regulation 2018 and Data Protection Act 2018, are adhered to. These form an integral part of the Legal Utopia Data Collection Ethics Framework.
10. With all the above in mind, it is important that the data coordinators regularly review and enforce, especially in the context of the following criteria:

    - Transparency, Integrity, Legality and Security;
    - Data Protection Compliance;
    - Legitimate interests pursued; and
    - Observance and Compliance of Ethical requirements/considerations.

It is envisaged that the member of Westminster Law School who sits on the Local Management Committee Meeting (LMCM) will review this regularly and report on compliance.

11. Both parties confirm before the collection of data that they are registered with the Information Commissioners' Office, in accordance with the Data Protection Act 2018 and further to what was pre-approved in the ethics application, constitute joint controllers for the purposes of the General Data Protection Regulation 2018.

<u>Requirements: Contacting Legal Services Providers and Others for Data</u>

The data coordinators will be contacting, amongst others, legal services providers such as law centres, law clinics, solicitors' companies and charities ('data provider') to collect the data identified above.

To this end, it is important that, in the first place, the pre-approved text is used to make the initial contact with the data provider and that the date, time, name, address and form of contact is recorded on the encrypted system recommended by the University's Security and Compliance team.

Legal Utopia is the trading name for Legal Utopia Limited which operates at their registered office in England and Wales at Level 30, The Leadenhall Building, 122 Leadenhall Street, London, EC3V 1AB. Legal Utopia Limited [no. 10909418]. Company Directors include Fraser J Matcham, Robert Marcus, Charles Sterling, and Paul Harper. © 2019 All Rights Reserve.

All communication:

At all times, all data coordinators must be fully aware of all communications made by other data coordinators with data providers; it is important that whenever a data coordinator contacts a data provider, all coordinators are copied into all other data coordinators messages and they are processed so that they are fully aware of all the contact that is being made, this may include forwarding on messages. To this end, these communications must be logged on the encrypted system recommended by the University's Security and Compliance team.

Before any data collection steps can be taken, such as the identification of files ('data files') or participants who can provide data ('data interviewees'), 'somebody in a position of authority' at the data provider will be asked to sign a proforma permission letter/email confirming that, amongst other things, the background, the ethics application and the Legal Utopia Data Collection Ethics Framework above has been explained to them. A physical copy of this permission letter/email must be kept in a project file in a secure, key locked cabinet on the University's premises (Legal Utopia Project Secure Physical File') and a scanned copy should be placed on the encrypted system recommended by the University's Security and Compliance team.

The letter referred to above must refer to the data provider's right to withdraw from the project at any time.

Requirements: Data Files and Data Interviewees

The project will primarily draw from legal consumers' files ('data files') and interviews from relevant participants ('data interviewees') in collecting the natural language data mentioned in the background above. All data will come from either data files or data interviewee sources and to this end, two separate files and interview-based questionnaires will be used.

Before any data files or data interviewees are identified, a permission letter must be obtained from the data provider.

Once the permission letter has been obtained, the data coordinators will explain the nature, scope and type of data, ('data field'),they need to the data provider and will ask them to identify those data file(s) and data interviewee(s) they believe will be relevant to the data field. The list of participants' names and person information will be held just by the data provider. The data coordinators will provide a Participant Information Sheet to the data providers together with a Consent Form and will ask them to send it to the relevant participants under a covering letter agreed by the data coordinators and data providers.

The participants will send the consent form to Westminster Law School, which will act as a secure repository for all consent forms. They will be kept in the Legal Utopia Project Secure Physical File on the University estate. Westminster Law School will notify other data coordinators and the data provider in person of the return consent forms. The consent forms will be kept securely for a period specified by the SSH Ethics Committee.

Legal Utopia is the trading name for Legal Utopia Limited which operates at their registered office in England and Wales at Level 30, The Leadenhall Building, 122 Leadenhall Street, London, EC3V 1AB. Legal Utopia Limited [no. 10909418]. Company Directors include Fraser J Matcham, Robert Marcus, Charles Sterling, and Paul Harper. © 2019 All Rights Reserve.

The goal is that the only place where the data coordinators will have any identifiable personal data on a participant with respect to data files or data interviews will just be on the consent forms. The data coordinators or project will not be noting any personal information elsewhere, especially the online questionnaires.

Requirements: Legal Utopia Data Volunteers and Data Collection

As the ethics application envisages, Legal Utopia will recruit volunteers ('Legal Utopia Data Volunteers') to gather the relevant natural language data identified in the background above from data files and data interviews. Legal Utopia will vet the suitability of the volunteers to carry out the data gathering in a professional, sensitive and compliant manner, including checking their qualifications and relevant background.

All Legal Utopia Data Volunteers, before they collect any data from data files or data interviews, will receive the ethics training approved by the University's Security and Compliance team in the ethics application, from Legal Utopia and Westminster Law School consisting of at least the following:

"*A. Overview of the project and workflows;*

B. Role of Legal Utopia, the University of Westminster and 'Legal Utopia Volunteers';

C. Working with legal consumers and legal services providers;

D. The nature of the data to be collected from files and clients;

E. GDPR, data protection provisions, anonymity, encryption, participant conditions, personal data rights, data controllers and processors, security, confidentiality, privacy and sensitivity;

F. Minimising risk in data collection and compliance;

G. The Participant Information Sheet and Consent Forms;

H. Handling questions and complaints;

I. Management and Supervision of Legal Utopia Volunteers;

J. How to collect data – only use the JISC Online Survey platform and not paper; destruction of information;

K. Maximising data collection and effective and proper methods for doing so;

L. Contacts, expenses, confidentiality, IP assignment, non-disclosure agreement".

On completion of the training, the Legal Utopia Data Volunteers will have to sign a non-disclosure agreement and also signify their consent to fully abide by their training.

Legal Utopia is the trading name for Legal Utopia Limited which operates at their registered office in England and Wales at Level 30, The Leadenhall Building, 122 Leadenhall Street, London, EC3V 1AB. Legal Utopia Limited [no. 10909418]. Company Directors include Fraser J Matcham, Robert Marcus, Charles Sterling, and Paul Harper. © 2019 All Rights Reserve.

Legal Utopia, as their recruiter, will oversee, supervise and be fully responsible for the Legal Utopia Data Collection Volunteers in all activities.

After the Legal Utopia Data Volunteers have received the training and signed the form, they will be provided with restricted access to data collection questionnaires on JISC Online Survey. Usage of the latter to collect data was a condition of the SSH Ethics Committee and it has been chosen for its data security. On the JISC Online Survey, the Legal Utopia Data Volunteers will find two secure online questionnaires for I. Data Files and II. Data Interviews. Once the consent forms have been received from participants, and a suitable time has been agreed to access the data files and/or conduct interviews with data interviewees, a schedule will be compiled for each Legal Utopia Data Volunteer to access data from the file on their electronic devices and record the data in full accordance with the training they have been given.

Further to the above requirements, Legal Utopia Data Volunteers will be told that all data recordings must be made only via the JISC Online Survey; and that no personal or identifiable data, such as names, addresses, date of birth, gender, ethnicity, or alike must be recorded at all. With respect to files, data providers must redact all names and identifiable information.

Furthermore, as mentioned in the golden thread above, "*Westminster Law School will act as a filter and will double-check to ensure that no data has been gathered that directly or indirectly identifies any personal information. All individual data will be combined into one mass or general set. No personal data at all will be identifiable in any way whatsoever once the data has been turned into a raw set for use by the Department of Computer Science in developing the platform*".

In addition to the above requirements, Legal Utopia also implemented a requirement for all employees including Legal Utopia Data Volunteers to download a Virtual Private Network ('VPN') provided by Legal Utopia to any device utilised to carry out any activities concerning the used of data files as identified above.

Legal Utopia Data Volunteers that were recruited to manually review data files were also trained on the specific review process and provided with tailored guidance documentation to ensure consistency. All such Legal Utopia Data Volunteers undertaking a sensitive task, they were also limited on the number of files in each instance to minimise any possibility of data loss, contamination or breach. Upon completion, Legal Utopia Data Volunteers were required to destroy all record of each data file after confirmation of receipt by a data coordinator. Each file was subsequently reviewed by one of the data coordinators to safeguard against corrupted, compromised, or mistreated data.

Legal Utopia is the trading name for Legal Utopia Limited which operates at their registered office in England and Wales at Level 30, The Leadenhall Building, 122 Leadenhall Street, London, EC3V 1AB. Legal Utopia Limited [no. 10909418]. Company Directors include Fraser J Matcham, Robert Marcus, Charles Sterling, and Paul Harper. © 2019 All Rights Reserve.

Requirements: Data Analysis

The only people that can access the data once it has been uploaded to the JISC Online Survey will be the data coordinators. This will be reaffirmed at the Legal Utopia Data Collection Volunteers' training and regularly reviewed.

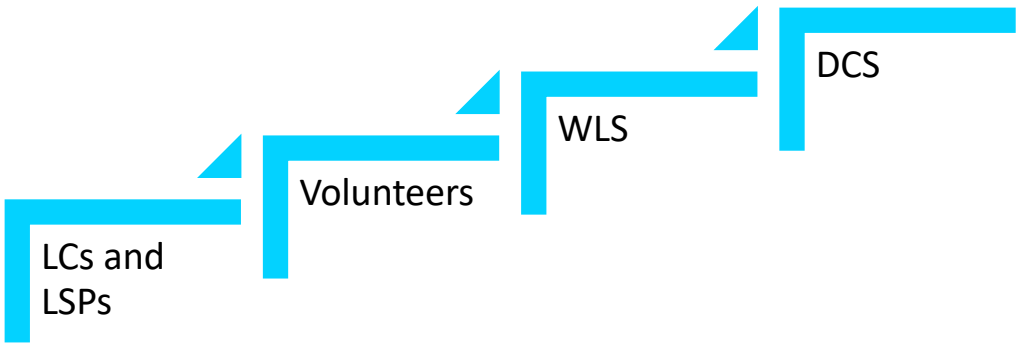
The coordinators will access the data from the JISC Online Survey to render it into suitable data from the Department of Computer Science to use in the product of the algorithm and platform identified in the background above.

In doing so, the data coordinators will use the online encrypted workspace first agreed with the University's Security and Compliance team. Only this platform and the Legal Utopia project Secure Physical File on the University estate will be used outside of the secure JISC Online Survey to handle and transfer data.

A comprehensive record of all analysis and processing activities of the data will be kept on the encrypted system in compliance with the Legal Utopia Data Collection Ethics Framework and relevant regulations.

All materials will be kept and transferred between data coordinators and the Department of Computer Science via the encrypted online platform and the Legal Utopia Secure Physical File on the university estate and as particularly agreed in the ethics application, all the individual data collected on the JISC Online Survey will be destroyed once it has been amalgamated into sets for the Department of Computer Science. This will be subject to the golden thread and Legal Utopia Data Collection Ethics Framework even when transferred to the Department of Computer Science.

Project Workflow



The research project workflow diagram above visualises the stages agreeing, accessing and passing information for the natural language data research. Legal Services Providers (LSPs) were contacted by Legal Utopia (LU) and Westminster Law School (WLS) to participate in our research to collect limited data on Legal Consumers (LCs). Once the access to such LSPs was agreed volunteers recruited by LU would collect data accessed, exclusively, by WLS. WLS would review and approve such data and aggregate all

Legal Utopia is the trading name for Legal Utopia Limited which operates at their registered office in England and Wales at Level 30, The Leadenhall Building, 122 Leadenhall Street, London, EC3V 1AB. Legal Utopia Limited [no. 10909418]. Company Directors include Fraser J Matcham, Robert Marcus, Charles Sterling, and Paul Harper. © 2019 All Rights Reserve.

approved data, passing this to the Department of Computer Science (DCS) for algorithmic modelling.

Data & Ethics Policy

In addition to the above Framework Protocol, Legal Utopia adopted an additional company policy to impose fundamental basic requirements of data protection and ethics on its research and development.

> *"Legal Utopia is a business operating in artificial intelligence technology and law, as the Company attempts to create and secure a sufficiently advanced, capable and reliable computer software, there are both ethical and regulatory considerations to be made throughout.*
>
> *The composition of the Executive Board establishes over 100-years of experience in business and law. It shall be the Company mandate to approach, debate and consider the ethical and regulatory position as research and development is undertaken for (or by) the Company with specific emphasis on the collection and utilisation of any data.*
>
> *The Company in considering its needs does not, nor will it seek to, procure data which can enable the Company or others to identify the person to whom composed said data in our research with any other body, institution or company without express consent. Any collection of data arising from the Company research shall be in strict compliance with the requirements of the Data Protection Act 1998 (DPA) and any other applicable laws. Any such system, service, product or software produced or commissioned by the Company shall be developed within the requirements of the DPA, the General Data Protection Regulation, and any other applicable laws.*
>
> *The board of directors shall meet quarterly to discuss the activities of the business and shall, at such time, consider the ethical implications of its decisions, actions, and omissions. The Company shall also consult its Data and Regulation Compliance Officer as and when appropriate throughout the course of the research and development of the Company's work.*
>
> *The Company confirms that it shall fully consider the viability of any product or service with regard to the appropriate ethical and legal implications of, and prior to, any commercialisation of said product or service to the public.*
>
> *Legal Utopia appoints Fraser J Matcham (CEO) as the Data Protection Officer and Robert Marcus (CLO) as the Data and Regulations Compliance Officer."*

Legal Utopia is the trading name for Legal Utopia Limited which operates at their registered office in England and Wales at Level 30, The Leadenhall Building, 122 Leadenhall Street, London, EC3V 1AB. Legal Utopia Limited [no. 10909418]. Company Directors include Fraser J Matcham, Robert Marcus, Charles Sterling, and Paul Harper. © 2019 All Rights Reserve.

Ethics Policy

In respect of the considerations in the forthcoming Trustworthy AI chapter, Legal Utopia has adopted a more substantive policy on ethical considerations in the delivery of its service arising from the research and development outputs of this study.

> *"Scope:*
>
> *This policy (the "Ethical Considerations – Ethics Policy" applies to the provision of Our Service identified below only.*
>
> *Service:*
>
> *Legal Utopia Limited ("Legal Utopia", "We", "Us", "Our", the "Company) provides an automated 'Legal Checker' tool through its Legal Utopia Engine (L.U.E) service delivered via Our Apps which are available from the Apple UK App Store (https://www.apple.com/uk/ios/app-store/) and the Google Play Store (https://play.google.com/store/apps?hl=en).*
>
> *More information about the L.U.E service can be found here: https://legalutopia.app*
>
> *Ethical Considerations:*
>
> *We understand the impact, both positive and negative, Our Service can have on Our customers and wider society. Our aim is to provide a service that delivers a positive impact on a demographic of wider society that is currently not served or informed; or under-served and under-informed in accessing legal support and advice.*
>
> *However, although our intent is to enable positive change through new innovation, the risk remains that Our actions or systems could cause a negative impact. This policy seeks to develop an ethical accountability framework to incorporate ethical considerations into Our commercial ambitions by expressly identifying areas of concern that require discussion, debate, monitoring, and reporting to reflect Our care for Our customers and Our respect and belief in wider society and democracy.*
>
> *We have included a range of areas that together comprise the substantive ethical considerations that We will undertake to proactively enable, include, facilitate, or consider during the commercial exploitation of Our Service.*
>
> - *Protecting fundamental rights.*
> - *Evaluating risks ensuring appropriate mitigation or justification as necessary in a democratic society.*

Legal Utopia is the trading name for Legal Utopia Limited which operates at their registered office in England and Wales at Level 30, The Leadenhall Building, 122 Leadenhall Street, London, EC3V 1AB. Legal Utopia Limited [no. 10909418]. Company Directors include Fraser J Matcham, Robert Marcus, Charles Sterling, and Paul Harper. © 2019 All Rights Reserve.

- *Facilitating other voices to be heard.*

- *Facilitate knowledge and understanding of our use of artificial intelligence.*

- *To facilitate the self-assessment or challenge to our systems.*

- *Facilitating more informed choices.*

- *Maintaining appropriate data governance and compliance in respect of decisions based soley on automated processing.*

- *To maintain and monitor appropriate systems protocol for compliance, suitability, credibility, and integrity.*

- *Maintain consideration and evaluation of the overall activities of the artificial intelligence apparatus.*

- *Monitor and evaluate the resilience of our systems to malicious attack.*

- *Consider and evaluate the potential for unintentional and unexpected harm.*

- *Consider and evaluate the collection, handling, processing and retention of personal data to ensure transparency and ethical use.*

- *To maintain and monitor the potential for unfair bias, including unlawful discrimination and enabling inclusion and accessibility by design. "*

External Counsel

Legal Utopia further formally engaged the services of international law firm, Norton Rose Fulbright, to provide a review of our compliance with relevant provisions of the General Data Protection Regulation; to conduct an assessment of our privacy policies and disclaimers to ensure compliance and transparency.

Legal Utopia retained counsel from Jurit LLP on various commercial and corporate matters, as well as Baker McKenzie LLP, Dentons UK and Middle East LLP, and Mishcon De Reya on a pro-bono basis in support of developing specific areas of our legal guidance content library.

Regulatory Compliance

In accordance with our Data and Ethics Policy, Legal Utopia actively consulted the Solicitors' Regulation Authority (SRA) at two stages of its development to make adequate consideration and preparation for incorporating and achieving approval from the SRA should it be necessary.

Legal Utopia is the trading name for Legal Utopia Limited which operates at their registered office in England and Wales at Level 30, The Leadenhall Building, 122 Leadenhall Street, London, EC3V 1AB. Legal Utopia Limited [no. 10909418]. Company Directors include Fraser J Matcham, Robert Marcus, Charles Sterling, and Paul Harper. © 2019 All Rights Reserve.

Upon initial consultation, the consideration was made that it was most improbable that the application (See: User Case: Beta Iteration) would not come within the remit of the regulatory body – it should be noted this did not include a prototype demonstration.

Legal Utopia then further consulted the SRA with the presentation of its proposal application prior to launch with disclosure of the relevant steps being taken to mitigate risk. It was considered that the proposed commercial application did not conduct a reserved activity and, as such, does not come within the remit of the SRA.

As the abovementioned application continues to be developed and its services naturally become more sophisticated, Legal Utopia will monitor its regulatory position to maintain its record of meeting relevant compliance regulation.

In addition, Legal Utopia collaborated with the Information Commissioners' Office – Innovation Hub and the pro bono support of Norton Rose Fulbright LLP to discuss the commercial outputs of this study and its data compliance position. In particular, the collaboration considered the application of the provisions of Article 22 of the General Data Protection Regulation.

Insurance Position

Legal Utopia recognises its responsibility to seek appropriate insurances in the unfortunate events that could occur due to a failure to meet standards, requirements or for events outside of our reasonable control. As such, Legal Utopia maintains the appropriate insurances to cover these unlikely events to ensure our customers and clients are adequately protected.

Legal Utopia maintains insurance in employers' liability, public liability, legal expenses, cyber-attack and data liability; provided by Axa Insurance and Hiscox Insurance.

Legal Utopia is the trading name for Legal Utopia Limited which operates at their registered office in England and Wales at Level 30, The Leadenhall Building, 122 Leadenhall Street, London, EC3V 1AB. Legal Utopia Limited [no. 10909418]. Company Directors include Fraser J Matcham, Robert Marcus, Charles Sterling, and Paul Harper. © 2019 All Rights Reserve.

TRUSTWORTHY A.I.

Legal Utopia, in its assessment of its use of machine learning natural language processing, has worked with Norton Rose Fulbright and the Information Commissioners' Office – Innovation Hub on its data compliance position. In addition to this, Legal Utopia has considered and commented on the components considered by the High-Level Expert Group on Artificial Intelligence for the European Commission to as whether a particular use of artificial intelligence is trustworthy.

This chapter of the study does not seek to establish compliance with these components but seeks to consider their relevance and practicality to a real-world commercial artificial intelligence apparatus.

The 7 non-exhaustive requirements of trustworthy A.I:

1. Human Agency & Oversight

a) Fundamental Rights

- A fundamental rights impact assessment should be undertaken.

Legal Utopia:
A thorough and audited data impact assessment has been carried out in relation to all aspects of the delivery of our services. To ensure data protection compliance and to assess the risks to data subjects to identify appropriate solutions and how these solutions can and should be implemented to mitigate or entirely remove the identified risk. Additionally, Legal Utopia has maintained a Data and Ethics Framework Protocol throughout its collaborative research and development, as well as monitoring its Privacy Policy and approving a Data and Ethics Policy.

We seek to go further with our relationship and obligation to safeguard fundamental human rights by considering the Charter of Fundamental Rights of the European Union (200/c356/01). We analyse, in particular, Articles 1, 21, 24, and 47 in relation to the commercial delivery of the L.U.E service in the UK.

Art 1 – Human Dignity must be respected and protected

Our Service has the capacity to improve human dignity through expanding access to justice and legal services.

Art 21 – Non-discrimination protecting sex, race, colour, ethnic or social origin, genetic features, language, religion or belief, political or any other opinion, membership of a national minority, property, birth, disability, age or sexual orientation.

Legal Utopia is the trading name for Legal Utopia Limited which operates at their registered office in England and Wales at Level 30, The Leadenhall Building, 122 Leadenhall Street, London, EC3V 1AB. Legal Utopia Limited [no. 10909418]. Company Directors include Fraser J Matcham, Robert Marcus, Charles Sterling, and Paul Harper. © 2019 All Rights Reserve.

We identify the necessity in creating and encouraging a diverse and inclusive working environment for our team, this is underpinned by the adoption of our Equal Opportunities and Diversity Policy. However, we have to strongly consider the potential for our services, in particular, our use of technologies that make or influence decisions about users, to generate unlawful discrimination.

The application of natural language processing can have the unintended potential to discriminate between different users on the basis of language. Various dialects that influence the expression of legal issues or disputes in written English can generate positive and negative features that can cause a particular user of one dialect to be successful in using our services, whilst another of a different dialect to be unsuccessful.

We must ensure that the appropriate monitoring and 'feature' investigative work is carried out to prevent or mitigate against the likelihood of discrimination of this type.

> Art 24 – Rights of the Child providing protection and care as is necessary for their well-being. The child's best interests must be a primary consideration.

We are aware of the need to protect the vulnerable members of our society, including children, whilst promoting their best interests for their well-being. We have restricted the use of our services to those aged 18 and over, as well as the provision to require payment for our services prior to their use via debit and credit card providers limiting, to a degree, the ability for children or those aged under 18 to access and use our services.

Additionally, our users can face unexpected and sensitive issues around family matters and, in particular, those that concern children. We always aim to support these users to inform them of pertinent and essential legal guidance in these areas of concern. We place specific emphasis on the information we provide via our services with respect to the area of family law, again, with our objective being to promote accessibility to legal guidance content and the various ways to obtain or procure legal support to resolve any underlining issue or dispute. However, we will seek to ensure that family law received appropriate and due attention with respect to ensure the content we provide or reference; and that provided by external third parties is authoritative, and monitored and updated as regularly as possible to mitigate against any possible event where a child's best interests are not served; where this cannot be guaranteed or realistically achieve we will take measures to exclude the provision of such legal guidance content until such a time where it can be.

> Art 47 – Right to an effective remedy and to a fair trial. Everyone is entitled to a fair and public hearing within a reasonable time by an independent and impartial tribunal previously established by law. Everyone shall have the possibility of being advised, defended and represented. Legal Aid shall be made available to those who lack sufficient resources in do far as such aid is necessary to ensure effective access to justice.

Legal Utopia is the trading name for Legal Utopia Limited which operates at their registered office in England and Wales at Level 30, The Leadenhall Building, 122 Leadenhall Street, London, EC3V 1AB. Legal Utopia Limited [no. 10909418]. Company Directors include Fraser J Matcham, Robert Marcus, Charles Sterling, and Paul Harper. © 2019 All Rights Reserve.

The relevance of Article 47 is particularly close to the mission and values we strive to achieve. The L.U.E service was developed to support public legal education to make it more affordable and accessible to those otherwise underserved or unserved.

Whilst we seek to achieve our mission, we have to maintain an awareness (and monitor) of our potential to cause the opposite of our intentions if our services are inaccessible or less accurate to certain users or groups of users. We continue to explore the linguistic nature of natural language used to identify legal problems and how predictions correlate to dialects that can be linked to particular users or groups of users.

- Evaluation of risks can be reduced or justified as necessary in a democratic society in order to respect the rights and freedoms of others.

Legal Utopia: We have purposely sought out the various risks associated with the delivery of our services, including those posed to data subjects concerned with using our services. This enables Legal Utopia to implement action points to either completely remove such risk(s) or to implement policies, procedures or procure insurance to ensure preventative and accountability measures are in place to identify minimum standards and deliver redress when necessary and appropriate.

- Mechanisms should be put into place to receive external feedback.

Legal Utopia: We are a consumer-orientated company and to ensure this mentality is carried through from product and services development to industry messaging, our application provides users with the ability to provide honest and comprehensive feedback which is periodically assessed and utilised to inform new iterative designs of our products and services. This is achieved by including functionality and prompts within the design of the L.U.E service to enable the provision of feedback at the relevant stages of the service. This feedback is collected and reviewed on a timetabled basis to create a "loop" whereby we can enable users to influence where we can make additions, changes, and improvements.

Additionally, we continually seek to improve upon all aspects of information delivery to be accessible and digestible to as many people as possible. As identified in this study on our research and development, we sought the use and feedback of our proposed L.U.E service taking into consideration the design, usability, functionality, value proposition, and observations of our researcher experience our consumer demographic using our prototype applications.

Where appropriate, we seek to actively collaborate with and seek the opinions of industry stakeholders. For example, we have proactively engaged with the SRA and ICO to seek input and guidance, as well as establishing a 'gateway' for industry service providers and innovators to engage with us through our "Connect" service.

b) Human Agency

Legal Utopia is the trading name for Legal Utopia Limited which operates at their registered office in England and Wales at Level 30, The Leadenhall Building, 122 Leadenhall Street, London, EC3V 1AB. Legal Utopia Limited [no. 10909418]. Company Directors include Fraser J Matcham, Robert Marcus, Charles Sterling, and Paul Harper. © 2019 All Rights Reserve.

- Knowledge and tools to be given to comprehend and interact with the AI system to a satisfactory degree.

Legal Utopia: We are proud of our use of artificial intelligence and the service we are able to deliver to the underserved or unserved. In doing so we have made significant resources available to consult our anticipated user demographic to get their feedback to our application design to deliver a meaningful solution they understand and can use. During this process, we included references to the use of machine-learning in the application – this include a simple explanation of the stages where machine learning is used and impacts the service, in addition, we also have prominent access to terms and conditions, data privacy, software status, frequently asked questions, and instant chat services (Mon-Fri 9am/5pm).

Furthermore, we have been working to create pages on our use of artificial intelligence on a non-jargonistic and staged basis through our main website. As privacy is increasingly important to the wider public and a priority for our users, we have also developed a 'summary' page of our privacy policy to get the most important information to the user and utilising images and icons to reduce use of text-exclusive policies.

- Be able to self-assess or challenge the systems.

Legal Utopia: We provide within our embedded system design an ability for the user to control the diagnosis outcomes, based on personal circumstances and include 'get-out' options to prevent incorrect classifications based on the systems proficiency limitations.

The system itself provides the user with the ability to review, edit and confirm the inputs they are providing at each stage of the diagnosis process. The system, at present, does not allow the user to self-assess why the machine-learning engine makes a decision to trigger certain conditions, but it does provide the user with the ability to invalidate an outcome, provide feedback, and where failure to classify or validate the issue occurring more than twice, prompt the opportunity to collect feedback.

We continue to learn from the feedback submissions in our approach to design, content and system proficiency levels. Additionally, our system is enabled to learn from the validation or invalidation provided by the user in each and every completed engagement of the L.U.E service.

- System should enable the individual to make better more informed choices in accordance with their goals.

Legal Utopia: We believe it is fundamental to our value proposition that all our users are put in a position where they are better informed to identify if they have a legal problem and to make a decision on resolving their legal problem. However, we

Legal Utopia is the trading name for Legal Utopia Limited which operates at their registered office in England and Wales at Level 30, The Leadenhall Building, 122 Leadenhall Street, London, EC3V 1AB. Legal Utopia Limited [no. 10909418]. Company Directors include Fraser J Matcham, Robert Marcus, Charles Sterling, and Paul Harper. © 2019 All Rights Reserve.

recognise that we cannot identify every possible combination of issues or always get it right and we make this clear in our terms of sale and disclaimer.

- Key is the right to not be subject to a decision based solely on automated processing when this produces legal effects on users or similarly significantly affect them.

Legal Utopia: This is an area where expert legal advice was sought to ensure data compliance prior to commercialisation of the L.U.E. Specifically, Legal Utopia collaborated with the Information Commissioners' Office (UK Data Protection Regulator) to receive advice on whether L.U.E would meet the threshold of Article 22 of the GDPR.

It was determined, in this case, that L.U.E did not reach the threshold to warrant compliance with this provision of the GDPR. This is on the basis that the L.U.E service does not make decisions about a data subject but informs the user to make a decision for themselves. However, Legal Utopia has taken steps to provide transparent information about the L.U.E service to inform end-users of the use of machine learning technology and the process of assessment – including its' limitations – to potential outcomes.

c) Human Oversight
   - Human-in-the-loop (HITL)

Legal Utopia: The proposal to include a 'human' in the diagnosis process of the Legal Utopia Engine would be contrary to the ambition of Legal Utopia to create a cost-efficient and autonomous process in regard to human decision making. Indeed, it was the ambition to discover new ways to diagnose legal problems by interfacing between computer and its user only.

However, considering the need to validate decision-making during this process to (1) deliver a value proposition to create a demand; and (2) create a feedback loop to the apparatus to reduce manual review, the inclusion of user-centred deign to influence user interfacing with the Legal Utopia Engine is fundamental to achieving affordability and accessibility.

Legal Utopia has worked with l Norton Rose Fulbright data protection team and the Information Commissioners' Office – Innovation Hub to understand and comply with its obligations under GDPR with respect to challenging an autonomous decision-making process and has determined that the processing is not caught by Article 22. Nonetheless the feedback features in the customer journey will afford users a chance to complain/feedback if the system is not functioning accurately which should alert the team rapidly to any serious issues.

- Human-on-the-loop (HOTL)

Legal Utopia: As above.

Legal Utopia is the trading name for Legal Utopia Limited which operates at their registered office in England and Wales at Level 30, The Leadenhall Building, 122 Leadenhall Street, London, EC3V 1AB. Legal Utopia Limited [no. 10909418]. Company Directors include Fraser J Matcham, Robert Marcus, Charles Sterling, and Paul Harper. © 2019 All Rights Reserve.

- Monitoring the systems operation

Legal Utopia: A constant need to review the on-going operations of the business, including, fundamentally, the monitoring of the systems operation to ensure its continued compliance, suitability, credibility, and integrity is of critical importance to Legal Utopia. Significant resource has and will be invested into monitoring system operations and understanding how to improve.

Development & Product Design Department

This department will establish an interdisciplinary team of expertise disbursed across different sub-teams to deliver on our compliance, suitability, creditability, and integrity to deliver our application.

Feedback Review Sub-Team:

This team has been established to structure and review feedback data channels to identify areas of improvement for our service and deliver reports on design, functionality, usability, and content to the relevant teams.

All feedback is utilised and formulated to provide direction to department and project teams.

Service Sub-Team:

This team has been established to structure and review the wider mapping of services, resources, and portals in the UK relevant and related to the recommendations made on our platform. This team will research, structure, monitor, and update UK-based services comprising our database; whilst working with our Connect service to support collaborating, partnering, and integrating with legal services providers.

Content Review Sub-Team

This team has been established to review and monitor the legal content (including legal aid eligibility) provided to our users to ensure it adds value; and regularly updated. Our General Counsel and legal engineering team working with external law firms work together to keep this content under review.

Legal Engineering Sub-Team

The Connect service has been established to support industry engagement and inclusivity to our application by creating a gateway to support the collaboration, partnering, and integration of legal services providers and innovators services with our application; creating a new route to custom for legal services providers and innovators, as well as create choice and transparency for our subscribers.

Legal Utopia is the trading name for Legal Utopia Limited which operates at their registered office in England and Wales at Level 30, The Leadenhall Building, 122 Leadenhall Street, London, EC3V 1AB. Legal Utopia Limited [no. 10909418]. Company Directors include Fraser J Matcham, Robert Marcus, Charles Sterling, and Paul Harper. © 2019 All Rights Reserve.

Data Research Sub-Team

This team has been established to support the manual review and analysis of natural language data that underpins our artificial intelligence apparatus which classifies explanations and descriptions into categories and sub-categories of law.

This natural language data is comprised of validated and unvalidated data that requires manual review, mapping, analysis, and labelling to ensure the highest data quality and accuracy. This provides the necessary data to support our algorithmic modelling and monitoring.

Development Sub-Team

This team has been comprised to investigate, monitor, model, and deploy our machine learning capability in natural language classification led by our Head of Development and Machine Learning. In addition, this team monitors and supports the development of the back and front-end infrastructure of our services across the business.

Company Boards
Company Boards have been established with interdisciplinary expertise to deliver on our corporate governance, business aims and objectives, and company mission statement.

Executive Board

This board comprises of directors, shareholders, and executives of the business to manage the long-term commercial vision, objectives, and aims of the business to ensure its continued growth and success.

Academic Board

This board has been established to assess and report on our research efforts, including the transition of insights to inform academic teaching. The boards' objective is to provide critical review of actional commercial research and academic reports and studies.

Advisory Board

This board has been established to support the wider commercial objectives of the business by delivering specialist advice to senior management and executives where appropriately required or sought.

- Oversee the overall activity of the AI system

Legal Utopia is the trading name for Legal Utopia Limited which operates at their registered office in England and Wales at Level 30, The Leadenhall Building, 122 Leadenhall Street, London, EC3V 1AB. Legal Utopia Limited [no. 10909418]. Company Directors include Fraser J Matcham, Robert Marcus, Charles Sterling, and Paul Harper. © 2019 All Rights Reserve.

Legal Utopia: As part of the above, Legal Utopia will continue to oversee and monitor its operations and in particular the activities of the AI system. Legal Utopia recognises its responsibility to ensure that the AI system is operating effectively, and any potential flaws are discovered, understood and mitigated.

Legal Utopia has designed its application with specific safeguards in place to prevent misdiagnosis or to mitigate against its likely-hood with the inclusion of an expert-system decision tree enabling the identification of thousands of unique legal problem combinations. The system outputs operate on the limitation of the scope of problem instances pre-identified, this means no legal guidance content is automatically generated or displayed outside of this scope.

Furthermore, each problem instance is restriction to characteristics that are relevance to such instance and then confirmed by the user via the apparatus interface; this means that questions and options displayed are intelligently displayed based on the characteristics of the users' legal problem (not the user themselves) and their relationship with the legal problem reducing overall risk of misdiagnosis or accidental validation.

The design also incorporates 'escape routes' and feedback returns, this means that when users are required to provide responses to the apparatus but the options available are unfamiliar with the users' legal problem, they can exit the options list and be presented with a restricted output. A restricted output might not present legal guidance, for instance, to reduce creating confusion or misinforming that particular user.

Legal Utopia continues to explore the expression and interpretation of consumer legal problems in the UK.

- Less oversight the human has over the system, the more extensive the testing and stricter governance require.

Legal Utopia: It is understood that the involvement of users in the legal diagnosis process enables a competent user to identify their particular legal problem. Where options are not possible to provide this, sufficient feedback loops have been included to provide for a learning opportunity for Legal Utopia. Our Feedback Team provides for the capability to constantly monitor feedback, swiftly understand the pattern-demands and making the necessary adjustments, additions, and alterations to allow a more comprehensive platform. For example, if a problem instance is not presented accommodated and a user provides feedback of their legal problem at the end of the assessment process; we are able to identify how this particular problem instance can be incorporated and correlated to demand.

2. Technical Robustness & Safety

a) Resilience to Attack and Security
   - Develop with a preventative approach to risk

 © 2019 All Rights Reserve.

Legal Utopia:

Legal Utopia has taken steps to undertake third-party penetration testing to independently test, evaluate and report on the technical security position of our L.U.E application. This security review supports and informs our operational and technical data security procedures, protocols, and policies; which Legal Utopia has sought further appropriate professional security advice to ensure compliance.

Legal Utopia believes that it has taken adequate steps to prevent or mitigate against risk in its approach to the development of this new capability in the state of the art.

- Minimising unintentional and unexpected harm

Legal Utopia: As above.

- Preventing unacceptable harm

Legal Utopia: As above.

- Should be protected against vulnerabilities from adversaries

Legal Utopia: A cyber-security review has and will continue to be undertaken as the Legal Utopia Engine and Legal Utopia's operations continues to expand and develop. Legal Utopia has ensured that there is appropriate and proportionate insurance in place to compensate for any potential unexpected attack or exploitation of undetected vulnerabilities from adversaries. Legal Utopia has identified an appropriate forensics firm to assist it in the case of a breach or attack, should it be necessary.

- Possible unintended application of the AI system

Legal Utopia: It has been assessed as to how the Legal Utopia Engine will be used by its anticipated user demographic, as well as those that might access the application outside of this demographic.

As such, measures in the application design, accessibility and functionality have been put in place, in addition to traditional processes and procedures, to prevent the use of the application. However, in some circumstances, unintended uses of the application may be an uncontrollable variable.

- Abuse by malicious actors

Legal Utopia: The prevention of the exploitation of our system is of critical importance to Legal Utopia and appropriate resources have been allocated to identify vulnerabilities in the system. Additional external testing continues to be one of many methods to detect vulnerabilities that could be used by malicious actors.

Legal Utopia is the trading name for Legal Utopia Limited which operates at their registered office in England and Wales at Level 30, The Leadenhall Building, 122 Leadenhall Street, London, EC3V 1AB. Legal Utopia Limited [no. 10909418]. Company Directors include Fraser J Matcham, Robert Marcus, Charles Sterling, and Paul Harper. © 2019 All Rights Reserve.

Given that we do not retain any fully identifiable personal data other than customer names and addresses; everything else is either anonymised or pseudonymised and therefore of little interest to malicious actors.

b) Fallback Plan & General Safety

- A plan should be available to safeguard in case of problems.

Legal Utopia: Due to the novelty of the Legal Utopia Engine and its area of operation, it has already been extensively considered with respect to the plan to safeguard users and the business. This has been embedded since inception and continues to be a priority for Legal Utopia. The appropriate processes and procedures have been put in place as part of our compliance review and the ongoing monitoring of our systems operations.

Redundancy back-up servers have been identified in the event of server malfunction, interruption or loss; as well as other automated, technical and operation measures to protect our systems from a range of potential, but unlikely, problems.

- AI systems switch from statistical to rule-based procedure

Legal Utopia: This particular point has been considered widely during research and development of the Legal Utopia Engine, it was contemplated and determined during this period that the system will not be purely 'data-drive' but incorporate a rule-based procedure to prevent misdiagnosis, unexpected faults or failures, and ensure a value proposition to realise commercial goals. As such, the Legal Utopia Engine does not switch from one to the other but is a bridged capability between the two.

- Crucial for safety measures to be developed and tested proactively

Legal Utopia: The incorporation of decision-making validation has been central to the design of the Legal Utopia Engine. Additionally, proactive and practical measures have been adopted to ensure the continued updating of system information provided to users.

Security processes and procedures have also been adopted and actioned to ensure there are appropriate safety measures that are tested frequently.

c) Accuracy

- Where occasional inaccuracies cannot be avoided, the system should indicate how likely errors are.

Legal Utopia: Legal Utopia seeks to prevent the misdiagnosis of a legal problem wherever possible placing the user in a position to make determinations in this respect. However, at present, Legal Utopia does not present to the user how likely errors are to occur. It does, however, notify the user when the AI system cannot

Legal Utopia is the trading name for Legal Utopia Limited which operates at their registered office in England and Wales at Level 30, The Leadenhall Building, 122 Leadenhall Street, London, EC3V 1AB. Legal Utopia Limited [no. 10909418]. Company Directors include Fraser J Matcham, Robert Marcus, Charles Sterling, and Paul Harper. © 2019 All Rights Reserve.

validate its decision; and appropriate risk measures have been designed to limited outputs.

d) Reliability & Reproducibility

- Results of AI are reproducible and reliable

Legal Utopia: The development of the artificial intelligence apparatus was commissioned in a knowledge-transfer partnership with the University of Westminster. Legal Utopia sought the input from a higher-education institution of research excellence to ensure its AI capability was of sufficient reliability with the results reproducible to provide integrity of the core functioning component to the commercial output of Legal Utopia.

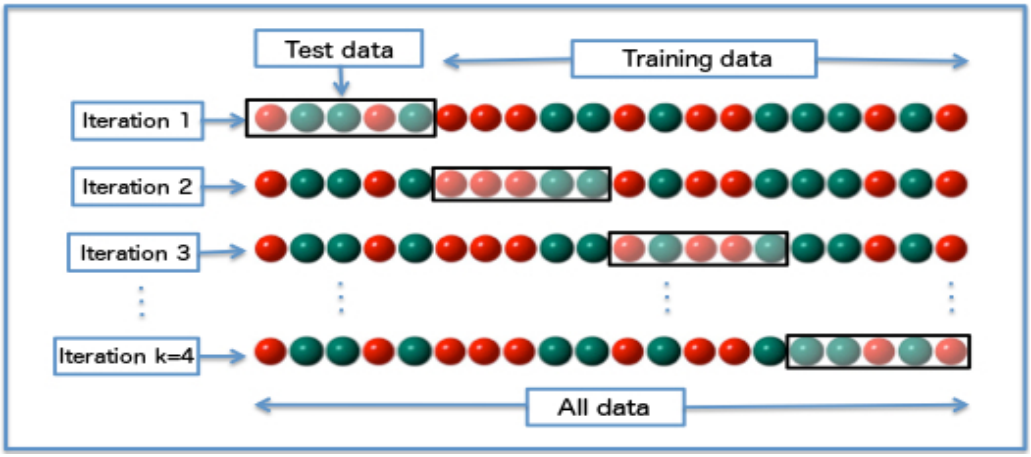
The evaluation testing undertaken in respect of the classification algorithm development known as the train/test split method. This process consists of separating the data used to train the algorithm(s) into two subsets and using one to train the classifier and the other to test the classifier. In order for this evaluation testing to be of value, the training set must be bigger than the test set and representative of the test set; creating the need for the form of the two sets to be very similar.

The train/test split method used consisted of a generic representation of 80% training and 20% testing.

In addition, and to add rigour to our evaluation approach, Legal Utopia also used resampling methods. This is because the train/test split method does not always provide a clear enough picture of the algorithm(s) performance. Resampling is a statistical tool used to generate deeper insights into an algorithm(s) performance.

The approach taking in resampling evaluation is referred to as k-fold cross-validation, this seeks to split the data into training and testing called k-sets. The k set can be any volume of data and the classifier is trained on the k-1 sets leaving one k-set for testing. The classifier is trained on the different groups of sets while leaving one k-set for testing purposes. This evaluation method is more informative than a split test as it includes the entire dataset for the entire process, but not at the same time (depending on the metric used).

Legal Utopia is the trading name for Legal Utopia Limited which operates at their registered office in England and Wales at Level 30, The Leadenhall Building, 122 Leadenhall Street, London, EC3V 1AB. Legal Utopia Limited [no. 10909418]. Company Directors include Fraser J Matcham, Robert Marcus, Charles Sterling, and Paul Harper. © 2019 All Rights Reserve.



The evaluation testing undertaken in respect of the computational logic developed by Legal Utopia consists of more consumer testing and analysis to gauge approach understanding and appropriate use in an operationalised model (embedding into an application).

- Works with a range of inputs, in a range of situations

Legal Utopia: The process to which the system provides a legal problem diagnosis works with a range of inputs to determine a result. During this process the variable that enables change is the AI decision-making to determine which route is most probable by classifying the natural language input submitted by the user when explaining or describing their legal issue or dispute.

Where the AI component fails to classify the correct route to a sufficient threshold of certainty it will fail by default. Where the AI component reaches a sufficient threshold of certainty its decision will be validated by the user via an expert system triggered by the AI classification; where the user fails the decision of the machine learning prediction, the AI system is provided with an additional opportunity to determine the correct route. This is again validated by the user via an expert system triggered by the second most probable classification by the AI component. Should the user validating this route again fail the decision, the system will by default fail and provide a manual and limited route to diagnosis.

The classification algorithm used in the Legal Utopia Engine has an accuracy rate of up to 96% (F1 Score), this is the ability to classify a natural language submission within a domain of law. The classification algorithm has a median accuracy rate of 77% (F1 Score), this is the median value of the ability to classify a natural language submission across the 10 most popular domains of law.

The ability for the system to validate the correct domain of law within two attempts is 93%; this is the capability for the classification and user (via computational logic) to correctly classify the natural language submission and validate the classification.

Legal Utopia is the trading name for Legal Utopia Limited which operates at their registered office in England and Wales at Level 30, The Leadenhall Building, 122 Leadenhall Street, London, EC3V 1AB. Legal Utopia Limited [no. 10909418]. Company Directors include Fraser J Matcham, Robert Marcus, Charles Sterling, and Paul Harper. © 2019 All Rights Reserve.

The Legal Utopia Engine has a success rate of 94%; this is the rate which the system is able to get the correct relevant information to the right user (this includes both the success and partial-success results).

The above concerns a range of 10 domains of law which act as the limitation of the machine learning proficiency. The results have been determined from evaluation tests as identified in this study and 'offline' market testing of 3300 user research participants.

3. Privacy & Data Governance

a) Privacy and Data Governance

- Ensured that data collected about them will not be used to unlawfully or unfairly discriminate against them

Legal Utopia: The Legal Utopia Engine has been developed and designed at a time of greater importance placed by consumers on their personal data. Legal Utopia has taken this onboard and continued to consult the targeted consumer demographic in prototype feedback sessions; as well as professionals and experts in the field of personal data protection and regulation to ensure that Legal Utopia meets the highest of standards.

Legal Utopia collaborated with the Information Commissioners' Office – Innovation Hub to investigate, review and implement a range of policies and procedures to ensure compliance.

Legal Utopia only collects personal data about its users for the reasons expressly identified in its privacy policy and Legal Utopia has the appropriate security, protection, and retention policies in place to deliver strong data governance. Legal Utopia also makes the appropriate disclaimer disclosures available to users prior to using the L.U.E service of the level of protections that concern their data and disclosure; in particular, that legal privilege expressly does not apply as the service is not that of a professional, regulated, or qualified lawyer providing a reserved legal activity(s); and, as such, does not have such protections otherwise provided by such practitioners.

b) Quality & Integrity of Data

- The integrity of the data must be ensured.

Legal Utopia: The parameters of the research and development of the Legal Utopia Engine, as part of the knowledge-transfer partnership with the University of Westminster was absolutely fundamental. This specifically and most importantly included the framework and quality assurance process adopted and implemented with respect to the data acquisition, labelling and review process to secure clean, high-quality and high-quantity data on consumer expressions of legal problems.

Legal Utopia is the trading name for Legal Utopia Limited which operates at their registered office in England and Wales at Level 30, The Leadenhall Building, 122 Leadenhall Street, London, EC3V 1AB. Legal Utopia Limited [no. 10909418]. Company Directors include Fraser J Matcham, Robert Marcus, Charles Sterling, and Paul Harper. © 2019 All Rights Reserve.

Legal Utopia identifies its proprietary database of training data as one of its biggest and most valuable assets due to the significant resource expenditure to attain high-quality data that can be used in training classification predictive models. The Data and Ethics Framework Protocol (DEFP) and its accompanying Ethics Application review and implementation was pivotal to achieving this.

The DEFP concerned six areas related to the collection of data for the research project, setting out the measures to be adhered to during the procurement and analysis phase (see Research Data and Ethics – Golden Thread):

- *Project Background*
- *Data Collection Ethics Framework*
- *Contacting Legal Service Providers and Others for Data*
- *Data Files and Data Interviewees*
- *Data Volunteers and Data Collection*
- *Data Analysis*

c) Access to Data

- Data protocols governing data access should be put in place.

Legal Utopia: A protocol, along with specific security and confidentiality requirements were implemented and monitored throughout the research and development period. This was carried through to the independent research, development and commercialisation of the Legal Utopia Engine and Legal Utopia as a whole as highlighted in the above comments on data compliance and security.

- Only duly qualified personnel with the competence and need to access individual's data should be allowed to do so.

Legal Utopia: When seeking new talent to join Legal Utopia competence is always placed at the priority end of the assessment criteria spectrum, along with the corresponding assignment and delegation of tasks. Procedures, policies and protocols are also put in place to restrict the ability and need to access personal data of a customer, client or individual engaging with Legal Utopia.

4. Transparency

a) Traceability

- The data sets and processes that yield the AI system's decision, including those of data gathering and data labelling as well as the algorithms used, should be documented to the best possible standard to allow for traceability

Legal Utopia is the trading name for Legal Utopia Limited which operates at their registered office in England and Wales at Level 30, The Leadenhall Building, 122 Leadenhall Street, London, EC3V 1AB. Legal Utopia Limited [no. 10909418]. Company Directors include Fraser J Matcham, Robert Marcus, Charles Sterling, and Paul Harper. © 2019 All Rights Reserve.

and an increase in transparency. This also applies to the decision made by the AI system. This enables identification for the reasons why an AI-decision was erroneous which, in turn, could help prevent future mistakes.

Legal Utopia: As part of our knowledge-transfer partnership with the University of Westminster all research and development work were documented to pass knowledge from one organisation to the other. In addition, the documentation in regularly kept up to date to quarterly, bi-annual, and annual reporting to various boards including the executive board.

The continued documentation of our research and development, as well as records of our monitoring and reporting is also used to support our compliance and policy obligations as a responsible services provider.

- Traceability facilitates auditability as well as Explainability.

Legal Utopia: As above.

b) Explainability

- It should be possible to demand a suitable explanation of the AI system's decision-making process.

Legal Utopia: Transparency is key to successful consumer engagement with the L.U.E service and a principle of good data protection practice. To ensure that our end-users are informed about the process of decision-making and the variables that impact or inform such decision-making, Legal Utopia has created "information points" within the L.U.E service design. This provides users of the L.U.E service with information on the use of machine learning and the importance of the users input and interaction with our service which is used to inform the machine learning apparatus prior to using the L.U.E.

Explanation as part of log in process and specific infographics

c) Communication

- Humans have the right to be informed that they are interacting with an AI system.

  Legal Utopia: The requirement to notify a user of the presence or use of our machine learning capability is recognised in the design and development of our Legal Utopia Engine service. Legal Utopia has designed prompts to notify each user of L.U.E that the service includes the use of machine learning with additional non-jargonistic information to explain its use and impact. This is in addition to the notification of our use of personal data and that our L.U.E service is and remains a 'beta' service.

Legal Utopia is the trading name for Legal Utopia Limited which operates at their registered office in England and Wales at Level 30, The Leadenhall Building, 122 Leadenhall Street, London, EC3V 1AB. Legal Utopia Limited [no. 10909418]. Company Directors include Fraser J Matcham, Robert Marcus, Charles Sterling, and Paul Harper. © 2019 All Rights Reserve.

- AI system's capabilities and limitations should be communicated to AI practitioners or end-users in a manner appropriate to the use case at hand. This could encompass communication of the AI system's level of accuracy, as well as its limitations.

  Legal Utopia: An acknowledged requirement for delivering our Legal Utopia Engine is to communicate to end-users, prior to engaging this service, both the capabilities and limitations of the service itself; with particular attention applied to communicating our use of machine learning technology, personal data, and the importance of the users interaction with our service.

  Legal Utopia has worked with Norton Rose Fulbright and the Information Commissioners' Office – Innovation Hub to explore our use of machine learning and how that use correlates to data protection regulation. As part of this collaboration, Legal Utopia has established a dedicated machine learning webpage publicly accessible to everyone and included within the sign-up process of our service.

Current explanations are conceptual rather than empirical as to the probabilities assigned to the decision. L.U.E considers that the expert decision tree checking makes it less necessary to reveal the system's probability scores on any particular prediction. This is further supported by the probability floor that the system will not return an answer unless it is more than 75% certain that it is correct.

5. Diversity, Non-discrimination & Fairness

a) Avoidance of Unfair Bias

- Identifiable and discriminatory bias should be removed in the collection phase where possible.

Legal Utopia: A review of the linguistics of both the training data and the live data (i.e. data imputed by the user) needs to be continually reviewed and reported on to identify any presence of negative and damaging bias to the decision-making process of the artificial intelligence apparatus. This is necessary, not only to achieve equality of access and to prevent unlawful discrimination of users, but also to achieve more accurate and frequent successful results. As such, this investigation, review and reporting is included in our risk mitigation and continued monitoring policy on the AI system.

The Legal Utopia Engine specifically excludes characteristics that are personal to the user and does not utilise such information from the users account during the diagnosis process, including the data points considered by the AI system.

Legal Utopia recognises that a potential area for bias to develop or occur is via linguistic differentiators consistent with the feature vectors used to enable a classification. As natural language input is required and the way different demographics express their problems in different ways could potentially cause bias

Legal Utopia is the trading name for Legal Utopia Limited which operates at their registered office in England and Wales at Level 30, The Leadenhall Building, 122 Leadenhall Street, London, EC3V 1AB. Legal Utopia Limited [no. 10909418]. Company Directors include Fraser J Matcham, Robert Marcus, Charles Sterling, and Paul Harper. © 2019 All Rights Reserve.

if one demographic was to fail achieving a classification; and, therefore, fully utilise our service, due to the way that user and an demographic group represented linguistically express themselves.

It is important to take into consideration the risk to cause discrimination arising from unintended or foreseen use of our artificial intelligence apparatus. This is why Legal Utopia has implemented the investigation, evaluation, and reporting of the data and decision-making process used to monitor and prevent the risk of bias. For instance, the linguistic analysis of natural language data used and its relationship with different demographics by association with dialects can assist with determining bias correlated to prediction outputs or success rates (i.e. if one particular dialect is less likely to receive a prediction outcome or less likely to receive relevant content outputs than others).

- Moreover, hiring from diverse backgrounds, cultures and disciplines can ensure diversity of opinions and should be encouraged.

Legal Utopia: The business operates an Equal Opportunities and Diversity Policy to ensure that discrimination is expelled from the opportunities available at Legal Utopia. Equally, this policy ensures an approachable and open environment to the personnel encouraging diversity of backgrounds, cultures and disciplines.

As Legal Utopia develops and grows over time, appropriate collection of statistics and roles-based reporting will be carried out by human resources to report on diversity and inclusion.

b) Accessibility & Universal Design

- Systems should be user-centric and designed in a way that allows all people to use AI products or services regardless of age, gender, abilities or characteristics.

Legal Utopia: The process of the Legal Utopia Engine design included multiple consultations and surveys of consumers and small businesses to inform the functionality and design to deliver a user-centric service. This was carried out across communities in England and Wales to present an 'offline' prototype for piloting to understand the users' perspective and interaction with our application. When consulting research participants, the researchers reported on observations to highlight areas of proposed improvement, as well as specific requests or comments of research participants, this was subsequently comprised into a master report to identify patterns.

Legal Utopia will continue to research and develop to enable greater accessibility to its application allowing different consumer demographics to access its service.

c) Stakeholder Participation

Legal Utopia is the trading name for Legal Utopia Limited which operates at their registered office in England and Wales at Level 30, The Leadenhall Building, 122 Leadenhall Street, London, EC3V 1AB. Legal Utopia Limited [no. 10909418]. Company Directors include Fraser J Matcham, Robert Marcus, Charles Sterling, and Paul Harper. © 2019 All Rights Reserve.

- Stakeholders who may directly or indirectly be affected by the systems throughout its life cycle.

Legal Utopia: During and after the research and development period of the Legal Utopia Engine, Legal Utopia sough to consult and work with many stakeholders in the legal services industry, in addition to our consumer demographic. For example, research dialogue with the Legal Services Board and Legal Consumer Panel on the impact of this study, working with regulators and our services. Indeed, Legal Utopia has proactively sought engagement from a number of industry stakeholders and service providers that may be directly or indirectly affected by the commercialisation of L.U.E (See: Engaged Stakeholders / Contributing Stakeholders).

Stakeholder engagement varied depending on the position of the stakeholder, however, commonly a consultation or briefing was provided by Legal Utopia to discuss its research and development work, including the intention to deliver a commercial solution. Stakeholders were then given an opportunity to comment and provide suggestions to developing or improving our proposal(s).

6. Societal & Environmental Well-Being

a) Sustainable & Environmentally Friendly AI

- Critical examination of the resource usage and energy consumption during training, opting for less harmful choices.

Legal Utopia: As an organisation we have a small footprint with respect to the use of resources and energy consumption. However, as the business continues to expand Legal Utopia does and will continue to, consider its impact on the environment including its use of resources and the corresponding energy consumption with preference for less harmful options.

b) Social Impact

- Social relationship

Legal Utopia: Technology is known for its contribution to enabling social interaction, as well as diminishing it. The Legal Utopia Engine was developed with the knowledge that many of its anticipated users were not seeking information on the legal problems and had little confidence in interacting with the legal industry to achieve this. As such, providing the Legal Utopia Engine enables a confidence-building tool to the legal industry with referrals to legal professional and organisations provided where relevant.

Legal Utopia believes it is promoting a greater degree of social responsibility and interaction with the legal industry by providing its services to demographic of the public that would otherwise not engage or find it difficult to engage with the legal industry.

Legal Utopia is the trading name for Legal Utopia Limited which operates at their registered office in England and Wales at Level 30, The Leadenhall Building, 122 Leadenhall Street, London, EC3V 1AB. Legal Utopia Limited [no. 10909418]. Company Directors include Fraser J Matcham, Robert Marcus, Charles Sterling, and Paul Harper. © 2019 All Rights Reserve.

- The effects of these systems must therefore be carefully monitored and considered.

Legal Utopia: It must be acknowledged that the above comment with respect to social relationship is the ambition and anticipated result of what Legal Utopia seeks to achieve and it must therefore be monitored with feedback from both users and industry taken onboard to make adjustments and changes where necessary to realise this ambition.

A series of steps, procedure and protocols have been established to support appropriate monitoring and ensure its integrity; including provisions for accountability. This includes the appointment of a Head of Development and Machine Learning, taking responsibility for the monitoring and investigation of the machine learning algorithms developed and used by Legal Utopia, as well as regular investigation reporting into its decision-making; taking into consideration of our responsibilities under our privacy policy, data security, and ethics policy to name a few.

c) Society & Democracy

- Taking into account its effect on institutions, democracy and society at large.

Legal Utopia: The provision of the Legal Utopia Engine could have significant positive, as well as negative effects on the legal profession, the legal industry as a whole, and a range of institutions, including but not limited to, changes within society and how we interact with one another when it concerns legal issues or disputes.

Legal Utopia has to monitor and step-back – at times – to consider the impact that this service is having on those institutions, democracy and society in a wider context to determine whether the provision of the service is delivering positive change that outweighs any possible negative impact. Part of the approach to this responsibility has been to establish an ethics policy to incorporate the consideration for fundamental rights and the appropriate monitoring of our systems.

Legal Utopia has utilised its position to leverage a range of expertise and valuable input to consider a range of potential risks associated with the provision of the Legal Utopia Engine. This consideration followed by mitigation solutions embedded with product design, contract, procedure, policy, insurance, as well as, organisational and technical steps aimed at preventing risk or ensuring appropriate redress.

7. Accountability

a) Auditability

- Enablement of the assessment of algorithms, data and design processes.

Legal Utopia is the trading name for Legal Utopia Limited which operates at their registered office in England and Wales at Level 30, The Leadenhall Building, 122 Leadenhall Street, London, EC3V 1AB. Legal Utopia Limited [no. 10909418]. Company Directors include Fraser J Matcham, Robert Marcus, Charles Sterling, and Paul Harper. © 2019 All Rights Reserve.

Legal Utopia: The Legal Utopia Engine was developed as part of a significant research and development project funded by the European Union Regional Development Grant and private angel investment. This enables an open-relationship to work with our collaborative academic partner - the University of Westminster - to achieve a mutual objective. During this process the assessment of the algorithms, data and product design was made a priority and requirement.

As part of the investigation, monitoring, and reporting procedures and processes Legal Utopia continues to keep its algorithms, data and design under assessment to identify where we can improve and implement changes where necessary. This is appropriately reported to senior management and comprised into documented reports to enable auditability and accountability.

- Evaluation by internal and external auditors.

Legal Utopia: As above.

- Affecting fundamental rights, including safety-critical applications, AI systems should be able to be independently audited.

Legal Utopia: The discussion related to the exchange of information related to artificial intelligence systems or apparatuses is one that requires significant further development to provide adequate protections and assurances to those disclosing such information. Legal Utopia remains open to such discussions to shape the terms to which this particular auditing can be facilitated to further assurance and protect our customers and clients.

b) Minimisation & Reporting of Negative Impacts

- Report on actions or decisions.

Legal Utopia: As identified above, Legal Utopia has identified and adopted the appropriate areas in which investigation, monitoring and reporting is required to minimise and mitigate against negative impacts on the actions or omissions of the artificial intelligence apparatus used in the Legal Utopia Engine.

A framework of process and decision-making documentation will be established by Legal Utopia taking into consideration the various company policies to provide a greater degree of auditability and accountability.

- Use of impact assessment both prior to and during development, deployment and use of AI systems can be helpful to minimise negative impact.

Legal Utopia: A requirement of the collaborative knowledge-transfer partnership with the University of Westminster was approval from the Social Sciences and

Legal Utopia is the trading name for Legal Utopia Limited which operates at their registered office in England and Wales at Level 30, The Leadenhall Building, 122 Leadenhall Street, London, EC3V 1AB. Legal Utopia Limited [no. 10909418]. Company Directors include Fraser J Matcham, Robert Marcus, Charles Sterling, and Paul Harper. © 2019 All Rights Reserve.

Humanities Ethics Committee, in which included the requirement to adhere to the Data Protection Act, General Data Protection Regulation, and all other relevant laws. As such, Legal Utopia has undertaken a Data Impact Assessment on both its research and development project with the University of Westminster and a separate Data Impact Assessment on its commercial application – Legal Utopia Engine.

As and when appropriate, impact assessments will be carried out in accordance with data protection laws to ensure robust compliance.

- Proportionate to the risk that the AI systems pose.

Legal Utopia: The review and risk association to the delivery of the Legal Utopia Engine has been considered considerably and it remains a critical consideration that the public accessibility of the Legal Utopia Engine and the mitigation steps adopted are proportionate to the risks that the artificial intelligence apparatus poses.

c) Trade-offs

- Conflicts arises, trade-offs should be explicitly acknowledged and evaluated in terms of their risk to ethical principle including fundamental rights.

Legal Utopia: The consideration of the ethical implications of favouring one process, weighting, component or alike to achieve a particular result causing a negative result to trade-off with another competing process, weighting, component or alike can cause serious ethical challenges – in particular during intensive commercial pressures.

For example, the decision to align initiation of the expert logic tree on the prediction of algorithms of domains evaluated at 75% or greater accuracy and to exclude others. It was assessed that this threshold was realistic in its application to enable proficiency of L.U.E across more than one domain of law, whilst preventing the incorporation of other domains that lacked a sufficient volume of data to apply and evaluate. Furthermore, it was considered that this threshold, in combination with an expert logic tree, would ensure that it would be more likely than not that the apparatus would identify a legal problem that is within the scope of the proficiency of the apparatus in that domain. Legal Utopia has identified the domains that do not meet this threshold and expressly excludes any ability to predict problems in them.

Legal Utopia has taken to seek third-party opinions to support the ethical thread of senior management consideration, consultation and quarterly reporting to achieve practical and ethical determinations. This is reflected in the implementation of the Ethics Policy.

Legal Utopia is the trading name for Legal Utopia Limited which operates at their registered office in England and Wales at Level 30, The Leadenhall Building, 122 Leadenhall Street, London, EC3V 1AB. Legal Utopia Limited [no. 10909418]. Company Directors include Fraser J Matcham, Robert Marcus, Charles Sterling, and Paul Harper. © 2019 All Rights Reserve.

d) Redress

- Should be foreseen that ensures adequate redress.

Legal Utopia: As an organisation that has a risk-adverse approach to its research and development, this has carried over to our commercial exploitation of its outputs. As part of our responsibility to protect our customers and clients, as well as the business itself, Legal Utopia has and continues to consider all mitigation steps and solutions that can ensure sufficient and adequate redress to those that could be caused a loss in an unexpected and unlikely scenario.

- Redress is only possible when things go wrong is key to ensure trust

Legal Utopia: As above.

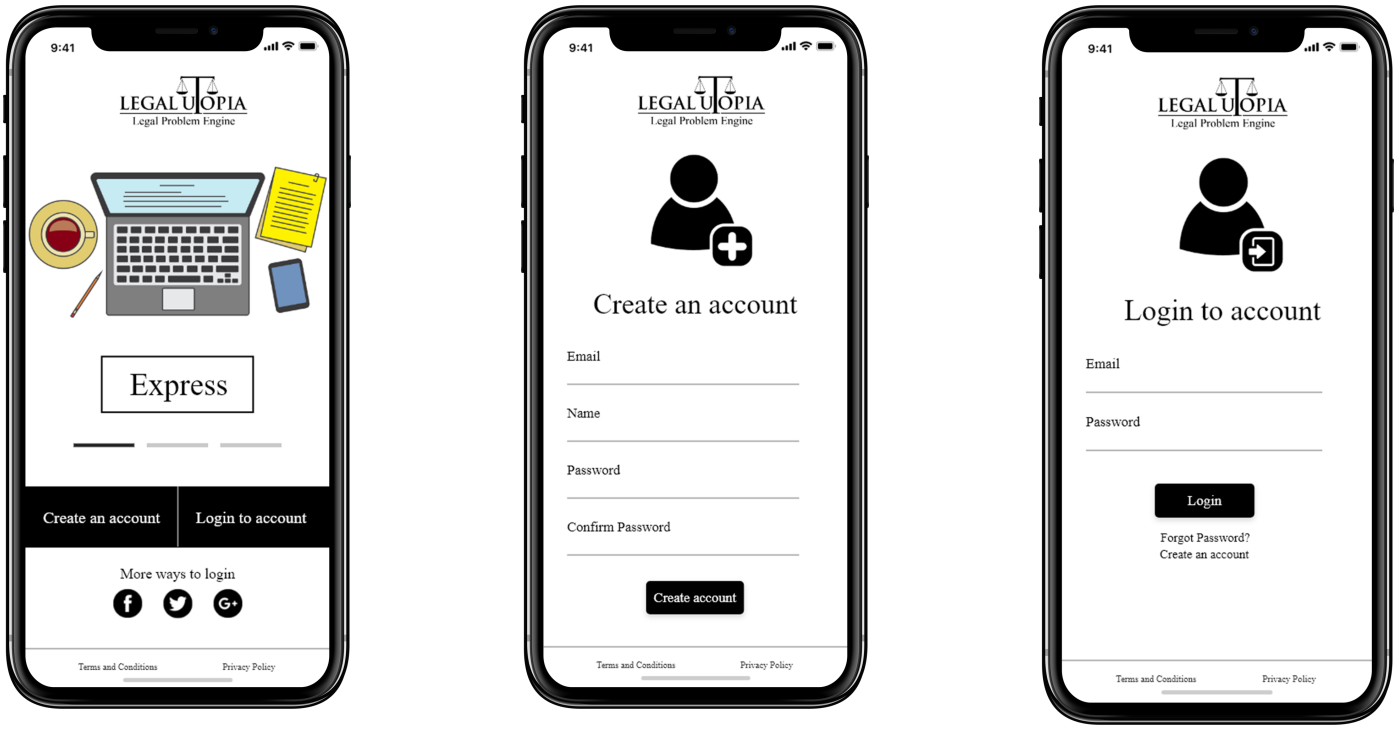
USER CASE (Beta Iteration)

This user case provides an overview of the artificial intelligence apparatus output of this study comprising of an IOS mobile application format. The mobile-applications' design, functionality and process is the result of the abovementioned study and consumer/user

Legal Utopia is the trading name for Legal Utopia Limited which operates at their registered office in England and Wales at Level 30, The Leadenhall Building, 122 Leadenhall Street, London, EC3V 1AB. Legal Utopia Limited [no. 10909418]. Company Directors include Fraser J Matcham, Robert Marcus, Charles Sterling, and Paul Harper. © 2019 All Rights Reserve.

consultations to deliver contemporary design that takes advantage of modern functional capabilities.

ONBOARDING



The onboarding process includes prominent access to both a pre-existing account, as well as create a new one with an interactive, but approachable imagery proving simple messaging of the users three process stages to diagnosis. A consensus amongst users resonated with this messaging and imagery, notably simplistic, but reassuring, placing resolution at the forefront of users' objective.

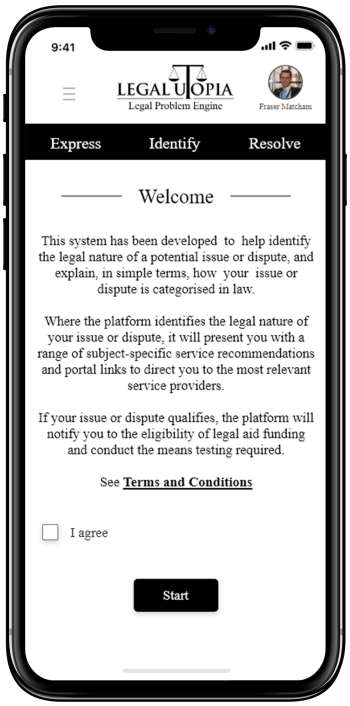
Swift access to the applications terms and conditions and privacy policy was a transparency induced design-choice to support reassurance of the terms of use, as well as providing information on how Legal Utopia as a company collects, handles, stores and uses user data.

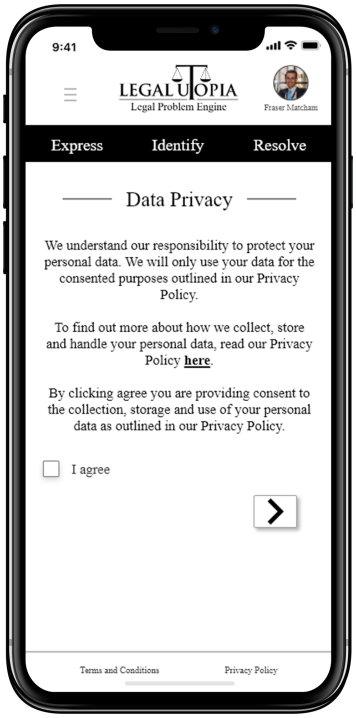
The application dashboard is the central navigation point for the application displayed using contemporary and illustrative icons to guide users and equally ranked in hierarchal prominence based on user interests and usage using industry design insights to inform this element of the design process.

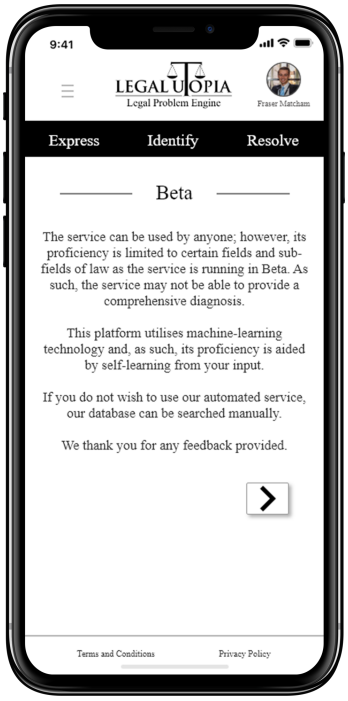
Finally, profile information is displayed providing regular familiarity and access to personal data points stored. This helped remind users of the information on the user, as well as the ability to edit the information should it change, or specific information to be removed. Again, the dashboard provided the relevant information and insights to the user based on the ranking of interest and usage informed by user feedback.

Legal Utopia is the trading name for Legal Utopia Limited which operates at their registered office in England and Wales at Level 30, The Leadenhall Building, 122 Leadenhall Street, London, EC3V 1AB. Legal Utopia Limited [no. 10909418]. Company Directors include Fraser J Matcham, Robert Marcus, Charles Sterling, and Paul Harper. © 2019 All Rights Reserve.

WELCOME PROCESS







The applications search option, at the point of first-time use, presents the user with a range of consent and prompt screens to educate the user of terms, privacy and proficiency of the applications core function of legal problem assessment and diagnosis.

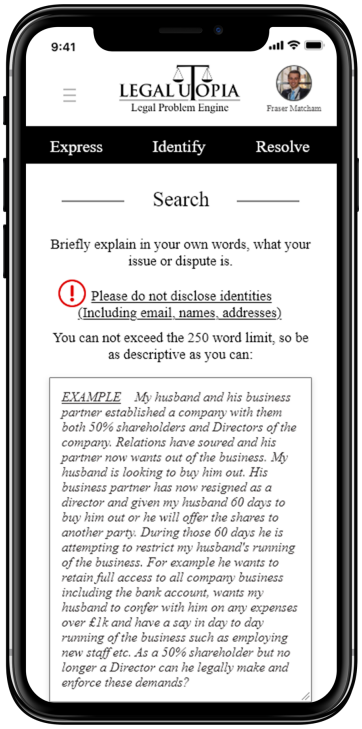
Upon opting to search, a user will be presented with an initial welcome screen providing direct access to the terms and conditions of its user accompanied with a brief message concerning the expectations of a positive outcome (successful diagnosis). It is a requirement to contractually accept these terms and conditions, and as such a user would have to opt back to the dashboard should they choose not to use this function.

If the user has accepted the terms and conditions attached to the user of this function, the next screen provides a privacy notice concerning how the application and the wider provider (Legal Utopia Limited) collects, handles, stores and disposes of personal data. Currently, it is a requirement to use the application that the user accepts the terms of the privacy policy, however, it is understood that greater customisability of these provisions may be beneficial.

Finally, the application provides a beta notice. This notifies the user that the application does utilise machine learning to self-learn from data inputs. This prompts the user to be aware of the technology utilised and the potential, but inferior, options available should the user wish not to utilise the service because of this. Additionally, this beta notice highlights that the applications function is in an adolescent stage of its proficiency and because of this it may be unable to successfully identify the users' specific legal problem.

SEARCH

Legal Utopia is the trading name for Legal Utopia Limited which operates at their registered office in England and Wales at Level 30, The Leadenhall Building, 122 Leadenhall Street, London, EC3V 1AB. Legal Utopia Limited [no. 10909418]. Company Directors include Fraser J Matcham, Robert Marcus, Charles Sterling, and Paul Harper. © 2019 All Rights Reserve.

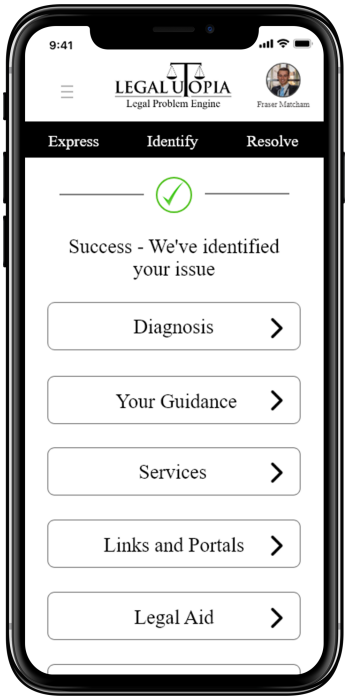


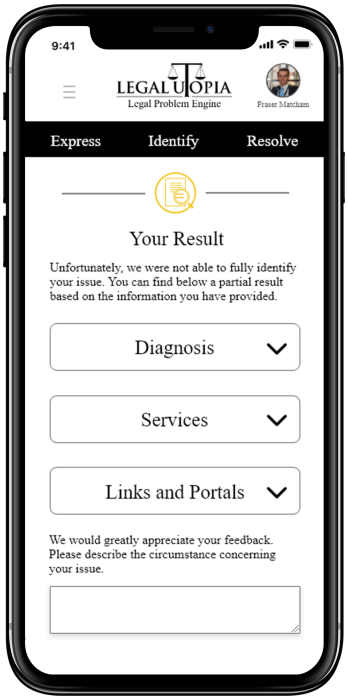
The applications core technological capability is utilised at the free-text-box search stage of the assessment and diagnosis process. This provides an input textbox to the user to input a description of their legal problem in whatever words they feel are appropriate to explain the problem. Note, that this is not a question query field but a problem statement one – this requirement is highlighted in brief on the screen. A user is prompted not to disclose personal information of themselves or other parties within the text box, additionally, the textbox has a minimum words and maximum words input.

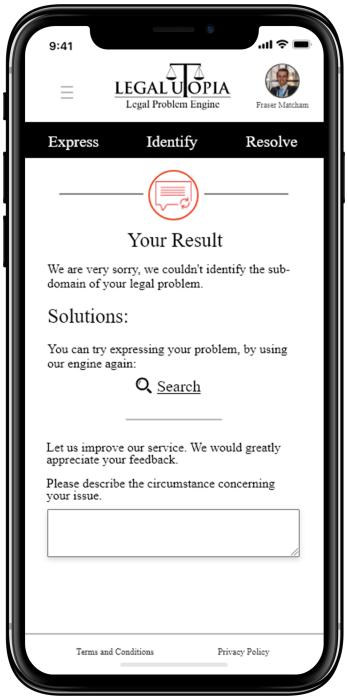
Following the submission and confirmation of the text submission, the user is subsequently provided with a range of selected closed questions. This supports and impacts the diagnosis process with the aim of validating decision-making processes and identifying specific characteristics of any one legal problem with responses educating the process and informing the next steps to a positive, semi-positive or negative legal problem diagnosis.

OUTCOMES

Legal Utopia is the trading name for Legal Utopia Limited which operates at their registered office in England and Wales at Level 30, The Leadenhall Building, 122 Leadenhall Street, London, EC3V 1AB. Legal Utopia Limited [no. 10909418]. Company Directors include Fraser J Matcham, Robert Marcus, Charles Sterling, and Paul Harper. © 2019 All Rights Reserve.







The applications outputs vary depending on the user inputs during the diagnosis process, a successful diagnosis (i.e. where the user has validated the predictive decisions of the algorithms) presents the users with a range of resources subject-relevant to the particular legal problem the users had been diagnosed with.

These include a diagnosis which explains in brief and non-jargonistic text what the domains and subdomains of law are and relate to. Secondly, the application provides guidance to the user based on their legal problem and a range of influencing circumstances including the role, status and scenario selected by the user. The aim of this content is to present the user with relevant, non-jargonistic information of the area and useful information related to seeking a resolution of the problem. This is, of course, what a user in these circumstances 'could do', oppose to providing legal advice as to what the user 'should do'.

Furthermore, the outputs also include access to a range of relevant services providers that provide legal services or legal support related to the diagnosed problem accompanied by a map of the location of those service providers. The online portals, resources and guidance links are further provided under Links and Portals to present a range of methods to resolving the users identified problem.

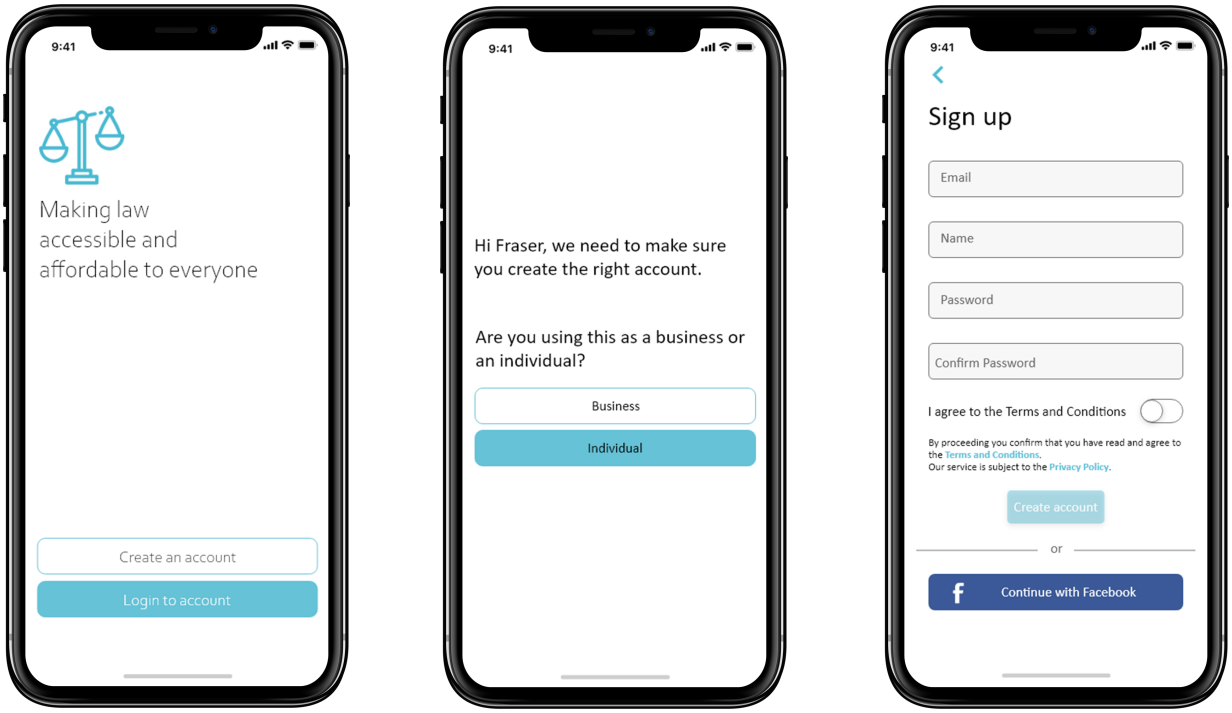
Finally, the user is provided with a reference as to their potential eligibility to obtain legal aid for their problem. This section provides the user with whether their particular issue could potentially qualify for legal aid and how to go about acquiring it. This is presented should the identified problem, from the diagnosis process, be identified as a pre-approved sub-domain and if so, will trigger additional questions pertaining to the qualifying criteria of a legal aid eligible problem.

Legal Utopia is the trading name for Legal Utopia Limited which operates at their registered office in England and Wales at Level 30, The Leadenhall Building, 122 Leadenhall Street, London, EC3V 1AB. Legal Utopia Limited [no. 10909418]. Company Directors include Fraser J Matcham, Robert Marcus, Charles Sterling, and Paul Harper. © 2019 All Rights Reserve.

USER CASE (Alpha Iteration 2.0)

This user case provides an overview of the commercial mobile application output of this study comprising in an IOS mobile application format. The mobile-applications design, functionality and process is the result of the abovementioned study and consumer/user consultations to deliver contemporary design that takes advantage of modern functional capabilities. Fundamentally, this demonstrates the substantial development of the application design from the start of the consultation (Beta) to its completion (Alpha 2.0)

ONBOARDING

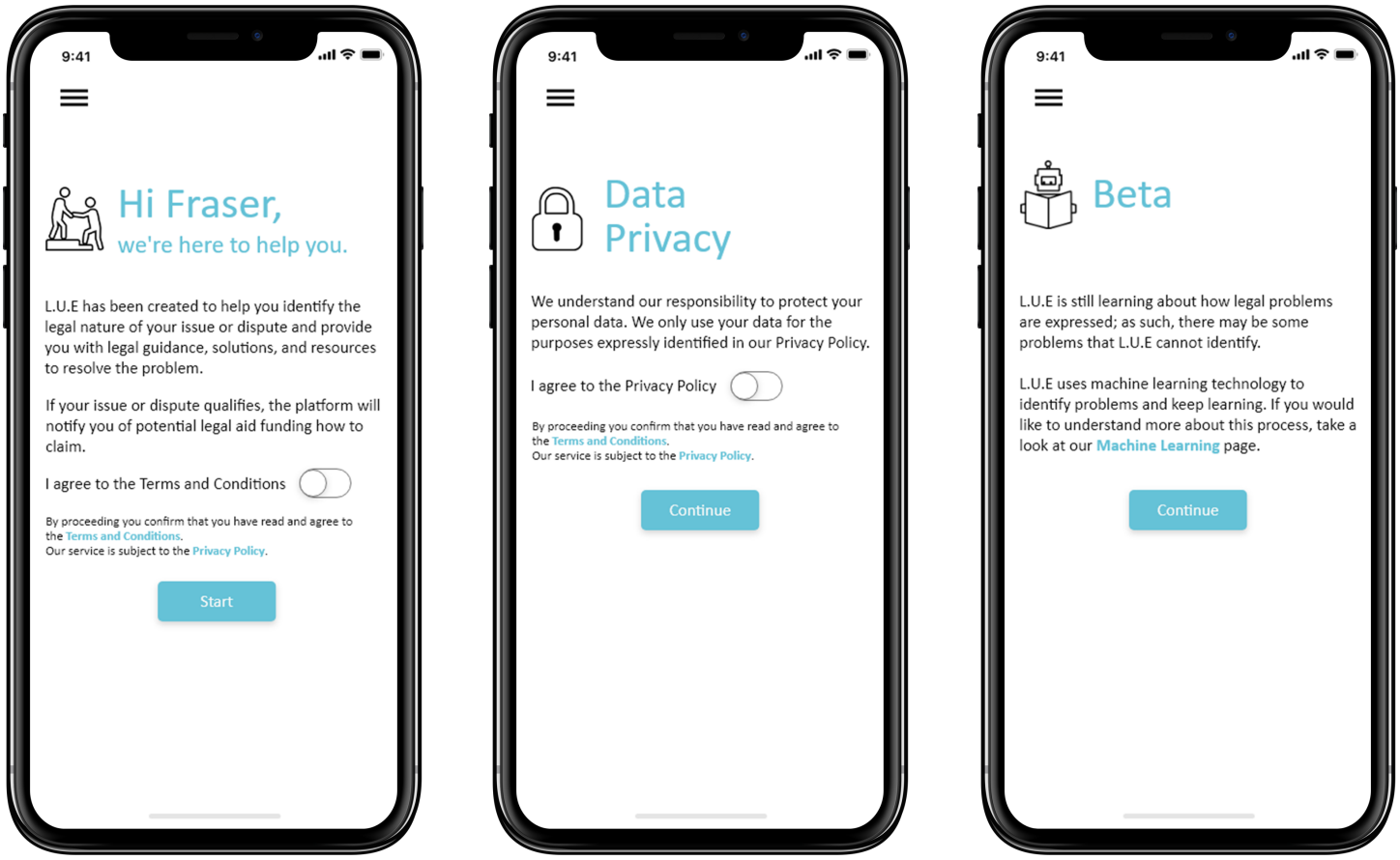


The Alpha 2.0 design reflects the feedback of consultations with consumers and small businesses prototyping previous designs. The new design includes a new logo design for the application itself to mark as an approachable symbol accompanied with our mission statement to reaffirm to the user it objective of the application. A modern, bright and minimalist design was adopted to focus user interaction and prevent confusion.

The process to creating an account includes data compliance by design to incorporate affirmative action to provide express consent. This is also complimented with the ability to create an account via a Facebook API due to requested demand making the process to sign up and log in more efficient.

Legal Utopia is the trading name for Legal Utopia Limited which operates at their registered office in England and Wales at Level 30, The Leadenhall Building, 122 Leadenhall Street, London, EC3V 1AB. Legal Utopia Limited [no. 10909418]. Company Directors include Fraser J Matcham, Robert Marcus, Charles Sterling, and Paul Harper. © 2019 All Rights Reserve.

WELCOME PROCESS

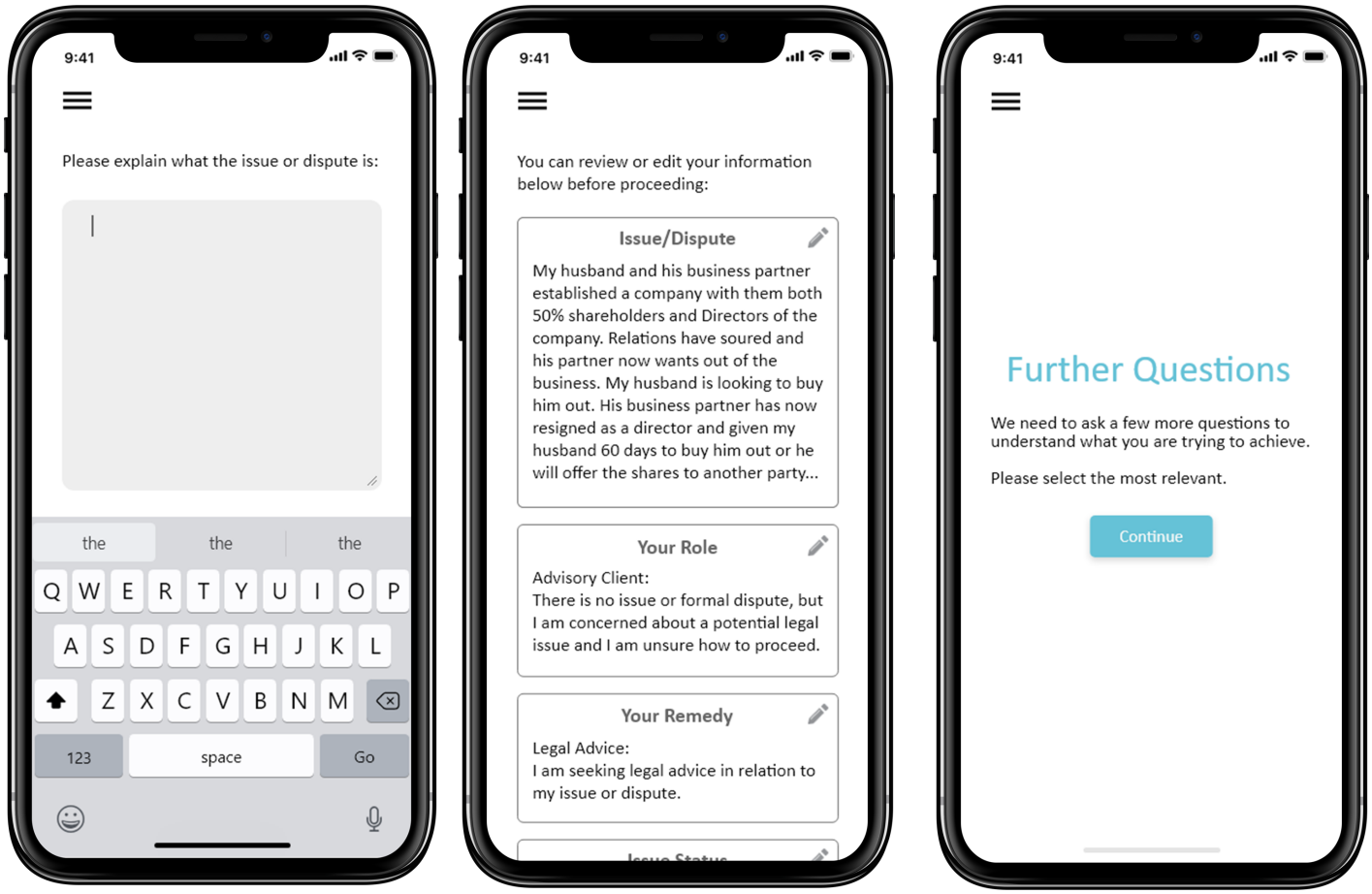


The welcome process is redesigned and follows a branding scheme to maintain consistency throughout the end-to-end user engagement. The welcome process occurs on the first use of the search process to ensure informed and express engagement of the service. These new screens include icons to engage the user on the subject matter and seeks affirmative action from the user to progress to the next stage.

The process incorporated a second tier of engagement with the user with respect to the nature and terms which they are engaging with the service, including the use of machine learning and a new pop-up screen that provides a non-jargonistic step-by-step disclosure of the use of machine learning.

Legal Utopia is the trading name for Legal Utopia Limited which operates at their registered office in England and Wales at Level 30, The Leadenhall Building, 122 Leadenhall Street, London, EC3V 1AB. Legal Utopia Limited [no. 10909418]. Company Directors include Fraser J Matcham, Robert Marcus, Charles Sterling, and Paul Harper. © 2019 All Rights Reserve.

SEARCH



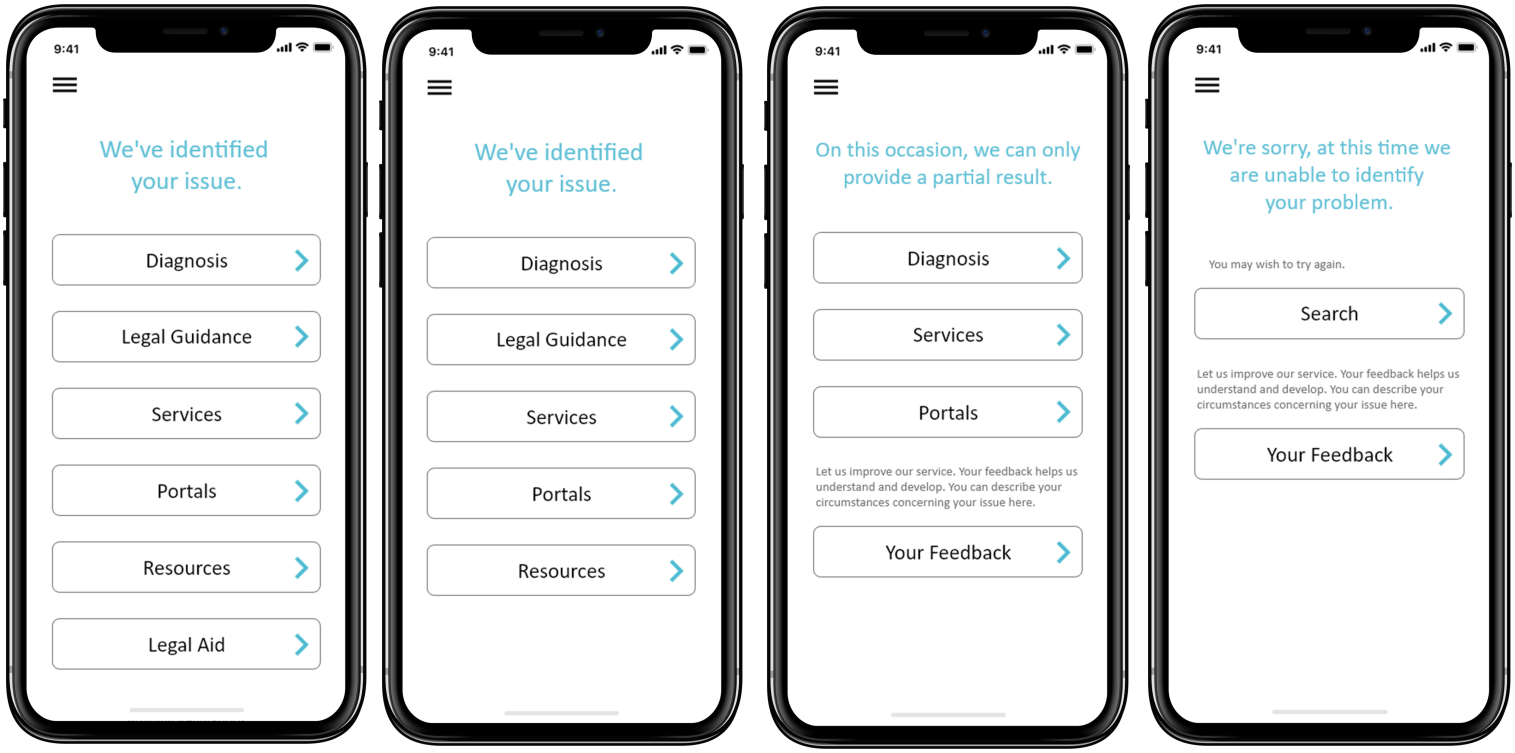
The search functionality is crucial to the application process, this underwent a redesign to provide more surface to the user to express their issue or dispute and removing the express restrictions and/or requirements provided on the Beta design. These restrictions and/or requirements are still incorporated into the application however they present themselves upon prompt or run autonomously within the application.

Upon completion for the search text input, the user is provided with the ability to go back and edit their selection and/or text input to ensure it reflects their true circumstances or position.

In addition, prior to initiating the next stage of the application process the user is provided with a notice of the next step. The notice is provided to prompt the user that the next phase concerns questions which they will need to answer and that the answers will impact the outcome. This reflects steps taken to include data compliance by design.

Legal Utopia is the trading name for Legal Utopia Limited which operates at their registered office in England and Wales at Level 30, The Leadenhall Building, 122 Leadenhall Street, London, EC3V 1AB. Legal Utopia Limited [no. 10909418]. Company Directors include Fraser J Matcham, Robert Marcus, Charles Sterling, and Paul Harper. © 2019 All Rights Reserve.

OUTCOMES



The outcome screens were design to reflect the processes in place to mitigate mis-diagnosis risk; that is should the system fail to receive confirmation or sufficient confirmation by the user as a result the output would either not be provided due to a lack insufficient confidence or a restricted result would be provided on the basis of what limited confidence could be validated.

This created three potential outcomes for any one search instance, if the process was to have a sufficient degree of confidence which was validated by the user and continued to be confirmed via the users' engagement then a successful screen would be provided with the full content outputs.

If during the process, a user was unable to validate or confirm some of the refined options the outcome would be a partial success. This would present the content related to those options or decisions that received validation and/or confirmation. Additionally, this output includes the functionality to provide feedback which can inform the administrator of new circumstances or information that can be looped into the next iteration to create a more exhaustive capability.

Legal Utopia is the trading name for Legal Utopia Limited which operates at their registered office in England and Wales at Level 30, The Leadenhall Building, 122 Leadenhall Street, London, EC3V 1AB. Legal Utopia Limited [no. 10909418]. Company Directors include Fraser J Matcham, Robert Marcus, Charles Sterling, and Paul Harper. © 2019 All Rights Reserve.

REFERENCES

Legal Services Board, Technology and Innovation in Legal Services, November 2018
Consumers less satisfied with legal services, YouGov, 2013; Research and Analysis: The changing legal services market, SRA 2018 P17
Creating New Pathways to Justice Using Simple Artificial Intelligence and Online Dispute Resolution, Osgoode Legal Studies Research Paper Series, Darin Thompson, 2015
https://digitalcommons.osgoode.yorku.ca/olsrps/152
Classifying Legal Questions into Topic Areas Using Machine Learning, Stanford University, Brian Lao and Karthik Jagadeesh
https://learnedhands.law.stanford.edu/legalIssues; https://legalshield.co.uk/legaldefence
https://justiceconnect.org.au/
Legal Technology Landscape (Chart): Based on representative sample of legal services portals from Legal Geek Map 2019
Legal Support: The Way Ahead – An action plan to deliver better support to people experiencing legal problems, February 2019 Part 4: Fostering a culture of innovation
Government launches £30m tech fund for social good, Third Sector, David Hobbs, February 2019 < https://www.thirdsector.co.uk/government-launches-30m-tech-fund-social-good/digital/article/1525249> accessed 18th June 2019
How innovation can unlock legal services for the majority, Legal Access Challenge 2019
https://legalaccesschallenge.org/insights/how-innovation-can-unlock-legal-services-for-the-majority/
https://www.artificiallawyer.com/2019/05/30/58-feel-excluded-from-legal-system-but-can-tech-help/
https://www.legalfutures.co.uk/latest-news/consumer-panel-urges-regulators-to-act-on-lawtech
Legal Services Consumer Panel, LawTech and Consumers, May 2019
https://www.lawgazette.co.uk/practice/trust-in-lawyers-falling-but-client-satisfaction-high/5056661.article
UK Legal Services Market Report 2015 – Press Release, IRN Research, 2015
Attitudes to the Justice System, English and Welsh Civil and Social Justice Panel Survey: Wave 2, Nigel Balmer, Legal Services Commission, 2013 p59
The Legal Needs of Small Businesses, Kingston University, Commissioned by the Legal Services Board, 2015
Competition & Markets Authority: Legal Services Market Study, December 2016
Consumer Impact Report, Legal Services Consumer Panel, 2014
Consumers less satisfied with legal services, YouGov, 2013
Customer Satisfaction, Complaints And Loyalty: The Evidence. Market Research World, 2008
Lessons for Law Firms: The client experience, LawNet, 2015
Research on Consumers' Attitudes towards the Purchase of Legal Services, A research report for: Solicitors Regulation Authority, Gfk NOP Social Research, 2010 Chapter 4
Market study into the supply of legal services in England and Wales – consumer findings, IFF Research 2016 Chapter 3
£2.7 Million Fund To Tackle Parental Conflict (*GOV.UK*, 2019) <https://www.gov.uk/government/news/27-million-fund-to-tackle-parental-conflict> accessed 21 August 2019
Home - Justice Connect (*Justice Connect*, 2019) <https://justiceconnect.org.au/> accessed 21 August 2019
Learned Hands (*Learnedhands.law.stanford.edu*, 2018) https://learnedhands.law.stanford.edu/legalIssues accessed 21 August 2018
Legal Services Consumer Tracker 2016' (*Legalservicesconsumerpanel.org.uk*, 2016) <https://www.legalservicesconsumerpanel.org.uk/publications/research_and_reports/documents/LegalServiceBoardReportbyYouGovV4.pdf> accessed 21 August 2019
Legal System Is 'Not Set Up For Ordinary People (*Lawyer Monthly | Legal News Magazine*, 2019) <https://www.lawyer-monthly.com/2019/07/legal-system-is-not-set-up-for-ordinary-people/> accessed 21 August 2019
Legaldefence (*Legalshield.co.uk*, 2019) <https://legalshield.co.uk/legaldefence> accessed 21 August 2019
The Legal Access Challenge Launches To Narrow The "Legal Gap" (*Seven Consultancy*, 2019) <http://www.seven-consultancy.com/the-legal-access-challenge-launches-to-narrow-the-legal-gap/> accessed 21 August 2019
Professional and Business Services Sector Report, House of Commons Committee Report – Exiting the European Union, UK Parliament < https://www.parliament.uk/documents/commons-committees/Exiting-the-European-Union/17-19/Sectoral%20Analyses/28-Professional-and-Business-Services-Report%20.pdf>

Legal Utopia is the trading name for Legal Utopia Limited which operates at their registered office in England and Wales at Level 30, The Leadenhall Building, 122 Leadenhall Street, London, EC3V 1AB. Legal Utopia Limited [no. 10909418]. Company Directors include Fraser J Matcham, Robert Marcus, Charles Sterling, and Paul Harper. © 2019 All Rights Reserve.

Tracker Survey 2019, Briefing note: how consumers are choosing legal services, Legal Services Consumer Panel, 30 July 2019, https://www.legalservicesconsumerpanel.org.uk/wp-content/uploads/2019/07/2019-07-25-How-consumers-are-choosing-2019-FINAL.pdf
Better Information In The Legal Services Market – A report for the Solicitors Regulation Authority and the Legal Ombudsman, June 2018, Economic Insight Ltd, https://www.sra.org.uk/globalassets/documents/sra/research/better-information.pdf?version=4a1ac1

Legal Utopia is the trading name for Legal Utopia Limited which operates at their registered office in England and Wales at Level 30, The Leadenhall Building, 122 Leadenhall Street, London, EC3V 1AB. Legal Utopia Limited [no. 10909418]. Company Directors include Fraser J Matcham, Robert Marcus, Charles Sterling, and Paul Harper. © 2019 All Rights Reserve.

CONTRIBUTING STAKEHOLDERS

Barclays Bank Plc
Norton Rose Fulbright LLP
Baker McKenzie LLP
Jurit LLP
Mishcon De Reya LLP
Westminster Student Law Clinic
University of Westminster
The Law Society of England and Wales
Dentons LLP
Solicitors Regulation Authority
Information Commissioners' Office – Innovation Hub
Amazon Web Services Inc

ENGAGED STAKEHOLDERS

Avon & Bristol Law Centre
Birmingham Community Law Centre
Bury Law Centre
Cambridge House Law Centre
Camden Community Law Centre
Coventry Law Centre
Croydon Law Centre
Cumbria Law Centre
Ealing Law Centre
Gloucester Law Centre
Greater Manchester Law Centre
Hackney Community Law Centre
Hammersmith and Fulham Law Centre
Harrow Law Centre
Hillingdon Law Centre
Islington Law Centre
Lambeth Law Centre
Luton Law Centre
Merseyside Law Centre
Merton Sutton Law Centre
North Each Law Centre
North Kensington Law Centre
Nottingham Law Centre
Paddington Law Centre
Rochdale Law Centre
Southwark Law Centre
Suffolk Law Centre
The Derby Law Centre
Tower Hamlets Law Centre
Nesta UK
Ministry of Justice
Solicitors Regulation Authority
International Family Law Group
HMCTS
Government Legal Services
Lexis Nexis
Aston University Law Clinic
Allington Hughes
The Law Society
Barclays Bank PLC
Barclays Ventures
Norton Rose Fulbright LLP
Baker McKenzie LLP
Clifford Chance LLP
Jurit LLP
Brent Community Law Centre
Liverpool John Moores University
University of Liverpool
University College London
Law Centres Network
Legal Geek
London South Bank University
Westminster Student Law Clinic
University of Westminster
Weightmans
SoLegal
The Genie Project
Litigants-in-Person Network

Legal Utopia is the trading name for Legal Utopia Limited which operates at their registered office in England and Wales at Level 30, The Leadenhall Building, 122 Leadenhall Street, London, EC3V 1AB. Legal Utopia Limited [no. 10909418]. Company Directors include Fraser J Matcham, Robert Marcus, Charles Sterling, and Paul Harper. © 2019 All Rights Reserve.

Vauxhall Community Law Centre
Wandsworth Law Centre
Wiltshire Law Centre
Springfield Law Centre
Freshfields LLP
Fieldfisher LLP
Deliotte LLP
PriceWaterhouseCoopers LLP
Capital Law LLP
Simkins LLP
Sutton-Mattocks & Co
Lancasters Solicitors
Lucas & Co
DAC Beachcroft
Cardiff Law Centre
Chelmsford Law Centre
East Greenwich Legal Advice Clinic
Citizens Advice
Sussex Law Clinic
Temple Legal Centre
Hull Legal Advice Centre
Centre
East London Legal Advice Centre
Essex Law Clinic
Centre
Kent Law Clinic
Leeds Legal Advice Clinic
Wolverhampton Legal Advice Centre
Grayfords LLP
Dawson Cornwell
K J Smith Solicitors
Levison Meltzer Pigott
Freemans Solicitors
Alexiou Fisher Phillipps
Ash Solicitors
Steinfield Law
Wedlakebell
Cubism Law
Walker Thomas
Walterwilson
Harold Benjamin Solicitors
Amazon EU SARL / Amazon Web Services Inc
Personal Support Unit
Edwin Coe LLP
Aberystwyth Law School
Linklaters
Edinburgh Legal Advice Centre
Manchester Legal Advice Centre
Reed Smith LLP
RobotLawyer LISA
Kingston University
Streathers LLP
Irwin Michell LLP
Owen White Solicitors
Northumbria University
Slater & Gordon
Surrey Law Centre
Duncan Lewis
Harlow Law Clinic
Lancaster Law Clinic
Plymouth Law Clinic
Richmond Legal Advice Service
Sunderland Student Law Clinic
Brown Jacobson LLP
Queen Mary Legal Advice
Centre
Toynbee Hall
South Westminster Legal Advice
Centre
Haringey Law Centre
East London Law Centre
PCM Solicitors
Axiom Law
Veale Wasbrough Vizards LLP
Centre for Justice Innovation
RegChain Limited
Thompson Reuters
LegalBeagle
Fletcherday
Seth Lovis
Hodge Jones and Allen
Venters Solicitors
Solomon Taylor & Shaw
SBG Solicitors
Russell Cooke
Keystone Law
Knightwebb

Legal Utopia is the trading name for Legal Utopia Limited which operates at their registered office in England and Wales at Level 30, The Leadenhall Building, 122 Leadenhall Street, London, EC3V 1AB. Legal Utopia Limited [no. 10909418]. Company Directors include Fraser J Matcham, Robert Marcus, Charles Sterling, and Paul Harper. © 2019 All Rights Reserve.

LINES OF ENQUIRY

Retrospective Files:

Based on the files, what was the first means of communication that the customer used to convey their legal problem to their legal service provider?

Generally, what words and sentences did the customer use to describe their legal problem to their legal service provider in this first means of communication (if there is an email, then please ask the legal service provider and customer for their written consent to be copied here, or please use the exact words from the file to the extent possible)?

What other means of communication, if any, were used to convey the legal problem to the legal service provider before the latter first contacted the customer?

How, or what sentences, were used to describe the legal problem to the legal service provider in these subsequent means of communication (if there is an email, then please ask the legal service provider and customer if this can be copied here, or please use the exact words from the file to the extent possible)?

How long after these various means of communication did the legal service provider first make contact? What means of communication did they use?

In broad terms, please describe the sorts of questions that the legal service provider asked with respect to the legal problem before legal advice was provided i.e. information was given on the areas of law that the legal problem engaged and what steps you could take with respect to them?

Broadly, did the legal service provider ask for any sources of information, such as documents, before they provided legal advice as described above?

In general terms, what legal advice did the legal service provider give with respect to the legal problem once they had obtained all the initial information?

Were any responses from the customer noted?

In your own words, describe if you feel that the perception of the customer changed from the start to the end of the case?

Client Interviews

In your own words, how would you have described your legal problem to a family member or a friend before you first contacted your legal service provider?

What areas of law and legal issues did you feel what your legal problem raised before you contacted your legal service provider?

Who, if any, was you legal services provider?

Legal Utopia is the trading name for Legal Utopia Limited which operates at their registered office in England and Wales at Level 30, The Leadenhall Building, 122 Leadenhall Street, London, EC3V 1AB. Legal Utopia Limited [no. 10909418]. Company Directors include Fraser J Matcham, Robert Marcus, Charles Sterling, and Paul Harper. © 2019 All Rights Reserve.

a. Solicitor b. Barrister c. Legal Executive d. McKenzie Friend e. Other.

What was the first means of communication that you used to convey your legal problem to your legal service provider?

How, or what words and sentences, did you use to describe your legal problem to your legal service provider in this first means of communication (if there is an email, then please ask the legal service provider and customer for their written consent to be copied here, or please use the exact words from the file to the extent possible)?

What other means of communication, if any, were used to convey your legal problem to your legal service provider before they first contacted you?

How, or what words and sentences, were used to describe your legal problem to your legal service provider in these subsequent means of communication (if there is an email, then please ask the legal service provider and customer for their written consent to be copied here, or please use the exact word from the file to the extent possible)?

Why were these various means of communication chosen?

How easy was it to both fully communicate your legal problem to your legal service provider and through these various forms of communication? If any difficulty was encountered, then please describe it here?

How long after these various means of communication were used did your legal service provider first make contact? What means of communication did they use?

Generally, in your own words, please describe the questions that your legal service provider asked you with respect to your legal problem before they first gave you legal advice i.e. information on the areas of law that your legal problem raised and the steps you could take with respect to them?

Broadly, did the legal service provider ask for any other information such as documents, before they provided legal advice as described above?

In your own words, what legal advice in general terms did your legal service provider give with respect to your legal problem once they had obtained all the initial information from you?

How did this change original understand of your legal problem?

In light of all your contact with the legal service provider, what words would you now use to describe your legal problem to a family member or friend?

Legal Utopia is the trading name for Legal Utopia Limited which operates at their registered office in England and Wales at Level 30, The Leadenhall Building, 122 Leadenhall Street, London, EC3V 1AB. Legal Utopia Limited [no. 10909418]. Company Directors include Fraser J Matcham, Robert Marcus, Charles Sterling, and Paul Harper. © 2019 All Rights Reserve.

Market Research

Would you use or prefer to use a mobile-based application to identify and help resolve your legal problem?

What would you pay for a platform that could identify and help resolve your legal problem on a monthly subscription?

What would you expect from a mobile-based application when identifying and resolving your legal problem?

Legal Utopia is the trading name for Legal Utopia Limited which operates at their registered office in England and Wales at Level 30, The Leadenhall Building, 122 Leadenhall Street, London, EC3V 1AB. Legal Utopia Limited [no. 10909418]. Company Directors include Fraser J Matcham, Robert Marcus, Charles Sterling, and Paul Harper. © 2019 All Rights Reserve.

DISCLAIMER:

All the information in this study is provided by Legal Utopia Limited on the basis that it is verified to the best of the author's and publisher's knowledge. Legal Utopia Limited, the author's and any other contributing party to the contents of this study do NOT accept liability for any and all loss (including, but not limited to, consequential loss) arising from any decision based on the contents of this study.

Legal Utopia Limited does not take responsibility for any defective, outdated or otherwise deficiency of any links or references provided or otherwise referred to in this study.

The study draws upon many sources, research surveys and alike information either undertaken by Legal Utopia Limited, commissioned by Legal Utopia Limited or provided by a third-party source. Any opinions expressed by the authors are formed based on presumed accuracy and authority of such sources and do NOT necessarily form the position or view of the publisher.

Due to confidentiality obligations and strict adherence to the ongoing obligations of our Data and Ethics Framework Protocol, this study is unable to disclose some of its engaged stakeholders, collaborative organisations, and original data sources.

Due to commercial sensitivity some aspects or areas of the research and development undertaken and forming part of the results of this research has been excluded, restricted or certain elements purposefully removed. Therefore, areas of this study may be unavailable, limited or incomprehensive.

No reference to a company, organisation or association in this study refers to, directly or indirectly, an endorsement, partnership, joint venture, or affiliation of the study itself or the commercial service(s) referred to.

Legal Utopia is the trading name for Legal Utopia Limited which operates at their registered office in England and Wales at Level 30, The Leadenhall Building, 122 Leadenhall Street, London, EC3V 1AB. Legal Utopia Limited [no. 10909418]. Company Directors include Fraser J Matcham, Robert Marcus, Charles Sterling, and Paul Harper. © 2019 All Rights Reserve.